

PLANNING FOR OFF-HIGHWAY VEHICLE USE AT THE COUNTY

LEVEL: A STAFF REPORT TO THE PLANNING

DEPARTMENT OF NEVADA COUNTY,

CALIFORNIA

A Project

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by

Philip A. Salter

Summer 2013

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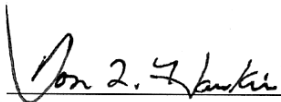
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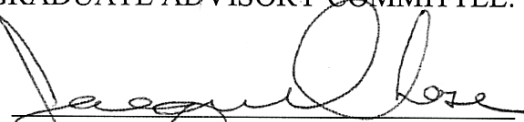
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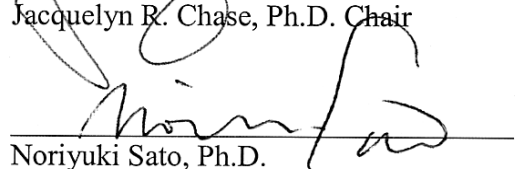
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TABLE OF CONTENTS

	PAGE
List of Tables	v
List of Figures	vi
Abstract	vii
CHAPTER	
I. Introduction.....	1
Description, Purpose, and Scope of the Project.....	6
Significance of the Project	7
Limitations of the Project.....	8
Definitions of OHVs.....	9
II. Review of Literature	10
Introduction.....	10
Environmental Effects of OHV Use	11
Restoration	15
Injuries and Deaths from OHV Use.....	18
Conclusion	22
III. Methodology	24
Analysis of OHV Policies by Public Land Agencies.....	24
Analysis of General Plans	25
Online Search for OHVa Areas	26
Analysis of OHV Court Decisions.....	27
GIS Presentation of Nevada County Trail Areas.....	27
IV. Results of the Policy Review	29
OHV Policy by Public Land Agencies	29
General Plans of California’s Counties.....	31
Counties with No Public OHV Areas	32

CHAPTER	PAGE
Counties with Public Lands Open to OHV Use but No General Plan Policy	34
Counties with Descriptive OHV Use in General Plan	35
Counties with Policy-Related OHV Use in General Plan.....	37
Counties with OHV Policies Outside of the General Plan	40
Legal Decisions.....	43
Summary	48
 V. Conclusions.....	 50
Overview.....	50
Trail Analysis.....	51
Local Reporting on OHV Use at Greenhorn Creek in Nevada County	55
Environmental Considerations.....	58
Clean-Up of OHV Areas.....	59
Stakeholders	60
Safety Concerns	63
Conclusions.....	64
 IV. Summary, Conclusions, and Recommendations.....	 65
Summary	65
Conclusions.....	66
Recommendations.....	67
 References.....	 69
 Appendices	
A. Preliminary Staff Report for Planning Director of Nevada County	79
B. Tables of Results for General Plans.....	88
C. Maps of OHV Trailheads in Nevada County	92

LIST OF TABLES

TABLE	PAGE
1. Summary of Trailhead Locations in Nevada County	52

LIST OF FIGURES

FIGURE	PAGE
1. Nevada County, CA Location Map	1
2. Nevada County, CA Overview Map	3
3. Existence of OHV Use and Policies in California counties	33

ABSTRACT

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Off-highway vehicle (OHV) refers to a category of motorized vehicles meant to travel off of paved roadways. These include motorcycles, quads, all-terrain vehicles (ATVs), and four-wheel drive vehicles. In a report in August 2005, the United States Forest Service recognized OHV use as one of the fastest growing outdoor activities on its lands.

Despite the increase in popularity of OHV use, regulations have not been standardized. Part of the issue stems from land use; control of OHV areas is often divided between federal, state, and local departments, and recreation occurs on both public and private land. OHV use can also be controversial. There are recreational benefits that

accompany increased OHV use, but these benefits must be weighed against environmental damage, health risks, and competing uses of the land. Committed groups argue for both sides as they pursue legislation and file court cases.

This study has two main goals. First, it looks at official OHV policies of California's public lands and counties. The Bureau of Land Management and United States Forest Service oversee much of the OHV activity that occurs on public lands, and both agencies have developed guidelines for such use. Of 58 counties in California, seven do not have public lands open to OHV use. Despite widespread OHV activity in the state, only eleven counties address OHV use in some form in their general plans. The majority of counties do not take an active role in creating policy for OHV use within their boundaries; some counties rely upon federal and state land use rules, and other counties have developed policies outside of their general plans.

Second, the project presents a summary of geographic data on current OHV use in Nevada County through the use of maps. This county experiences major OHV use, both legal and illegal. While some sites are controlled by the United States Forest Service or the Bureau of Land Management, private parcels fall under county planning and zoning regulations. Much of the recreation involves individuals or small groups, but local events draw as many as 600 people to participate on area trails. With this level of use comes a need for clear policy about land use and where OHV activity can best be supported and where it should be disallowed within the county. Currently, Nevada County's General Plan only provides a vague policy to "encourage the location and development of motorized off-road facilities" and does not outline how this will be

implemented. Using a series of maps as the basis of this analysis, OHV use in Nevada County is analyzed to determine which areas are most affected by OHV use as well as which stakeholders who are most affected by such activity. This information will direct attention of policymakers to specific areas that need regulation of environmental damage, safety, and noise.

This project provides a preliminary staff report to the Planning Director that synthesizes information about OHV issues and concerns, outlines the background of OHV use in Nevada County, presents maps, identifies stakeholders who should be included in the decision-making process, and recommends future action. The Planning Director will use the project as a summary of pertinent information when pursuing the development of more specific OHV policies in Nevada County.

CHAPTER I

INTRODUCTION

This project provides the Planning Director of Nevada County with a preliminary staff report that synthesizes information about off-highway vehicle (OHV) concerns, policies for OHV use from all California counties, OHV policies of federal agencies, and court decisions related to OHV use. As a GIS analyst with Nevada County, I have used my personal time to create maps for the project that display the trailhead locations as well as their relationship to public and private land. Nevada County is located in the foothills of California, approximately one hour northeast of Sacramento (see figure 1).



Figure 1. Nevada County, CA location map.

Off-highway vehicle use is an increasingly popular yet controversial recreational activity in California. According to the California State Parks division, the definition of an off-highway vehicle includes any motor vehicle that is operated off-highway (California State Parks 2013). This category includes vehicles such as trucks, sports utility vehicles (SUVs), motorcycles, and all-terrain vehicles (ATVs). Dirt bikes, sand rails, recreation utility vehicles, golf carts, snowmobiles, and go carts also classify as OHVs. Recreational OHV use ranges from leisurely drives on off-road trails to more extreme driving in undeveloped areas. Operators of OHVs use both public and private land. Throughout the United States, popular sites include Forest Service trails and Bureau of Land Management (BLM) land, which are also the main sites of legal OHV activity in Nevada County. Between 1994-95 and 1999-2000, OHV use increased by 32 percent in the United States, growing from 27.3 million users to 36 million users (Cordell et al. 2005). As OHV use continues to grow, local governments must decide how to regulate such activity, as off-road use can damage the environment and cause injury to users. Local governments are most affected as they tend to assume the greatest burden of these negative outcomes. At the same time, local areas can benefit from the presence of off-road recreation, leading to a situation in which most local governments where this activity occurs are motivated to regulate its use.

Unfortunately, not all OHV use occurs legally or responsibly, and illegal or inappropriate use increases environmental damage, especially when OHV users are careless of their surroundings. Creation of OHV trails is frequently challenged by environmental groups who advocate keeping forested and other undeveloped areas off-limits to OHV. Off-road areas require monitoring by first responders (i.e. law

enforcement and fire departments) who are responsible for providing help in emergency situations. As a result, some OHV areas have been closed and others remain undeveloped, causing what some OHV enthusiasts consider a shortage of suitable trails for OHV activities. When there are not legal OHV areas available or when restrictions are ignored by OHV riders, illegal activity results. This is a common pattern throughout the United States and in Nevada County, most notably at the now closed Greenhorn Creek OHV area (see figure 2).

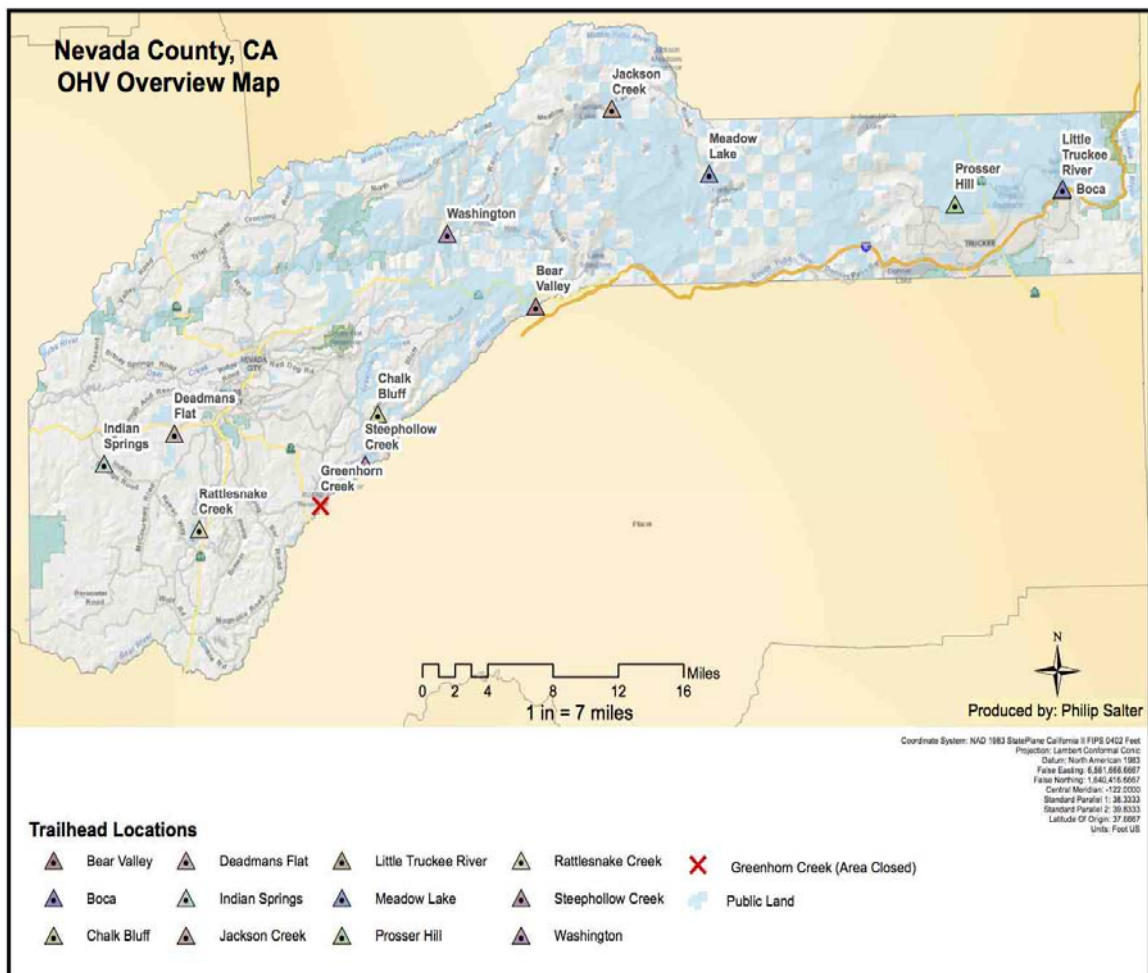


Figure 2. Nevada County, CA OHV overview map.

OHV use is debated, regulated, and enjoyed by a wide range of stakeholders. One important group of these stakeholders is the federal government, especially the United States Forest Service (USFS) and the Bureau of Land Management (BLM), as much of the land for OHV use falls under their jurisdictions. These agencies have created many plans to support responsible use, some of which will be reviewed below. Environmental groups and OHV rider groups have both challenged OHV policies in court, however, and case law influences the evolution of OHV regulations. These concerns and evolving legal decisions about environment, safety, and land management are relevant for this project on OHV use within Nevada County.

In Nevada County, much OHV use occurs on federal lands. In the eastern part of the county, the majority of legal OHV occurs at the Prosser Hill OHV area near Truckee and on BLM lands north and southeast of Nevada City (see figure 2). In addition, there are six legal OHV trailheads and staging areas in this section of the county. These are located at Bear Valley, Indian Springs, Rattlesnake Creek, Meadow Lake, Prosser Hills, and Little Truckee Summit. There is another high use OHV area at Boca Reservoir. Western Nevada County has one OHV trailhead at Chalk Bluff and six high use OHV areas that include Greenhorn Creek, Steephollow Creek, Jackass Flats, Deadman's Flat, Auburn Road, and trails in the Town of Washington. Four of these sites are completely on public land, three are mainly on private land, and the remaining sites are on a mix of public and private lands. In many cases, a trailhead begins on public land but trails cross through private parcels. (See appendix D for maps of the identified OHV areas and surrounding land use.) The "patchwork" layout of OHV areas in the county emphasizes the need for a uniform policy that is straightforward for officials, users,

landowners, and other stakeholders to interpret. A well-designed OHV policy in Nevada County could articulate public and private land use and would direct OHV use to designated trails, making regulation easier for law enforcement and other officials.

The United States Forest Service (USFS) is creating an inventory of all roads and classifying them for use. The number of OHV trails may indeed shrink in the future. In March 2010, the USFS announced that the Greenhorn OHV open area would be closed (Friends of Greenhorn 2010). The Greenhorn area has been controversial due to conflict between private landowners and OHV users. The Greenhorn area falls under the jurisdiction of the Tahoe National Forest and includes private land, BLM land, and USFS trails, making OHV use difficult to regulate. Announcement of its closure was irregular because the Tahoe National Forest Travel Management Plan, part of the USFS's project, has not yet been completed, so decisions are not final (Friends of Greenhorn 2010).

As OHV use increases, and as access to legal trails decreases, counties in California must decide how to regulate the land use associated with the growth of this recreational activity. This is of particular concern as federal and state agencies are closing lands to OHV use. Some counties have developed clear policies within their general plans, such as creating areas specifically for OHV use, while others have separate documents outlining OHV guidelines. Many do not have any plans. Nevada County only has vague policy on OHV use. Policy 6.7 in the Open Space element of the 1996 General Plan states, for example, that,

Nevada County encourages the location and development of motorized off-road facilities on lands where such use can be accommodated. The location and development of such facilities shall include consultation with the State Department of Fish and Game as well as other responsible agencies. (Nevada County General Plan 1996, Policy 6.7)

The statement does not include specific details such as where the location of OHV areas should be encouraged or how suitability will be determined. In addition, the General Plan for Nevada County was adopted in 1996 and has not been fully updated since then. Amendments are occurring in sections, with updates to Safety in 2008 and to Circulation and Housing in 2010. There is no county code supporting the OHV policy in the General Plan.

Description, Purpose, and Scope of the Project

This project will provide the Nevada County Planning Department with a preliminary staff report on OHV use in Nevada County (see appendix A). The report includes background information on OHV use in Nevada County including sites, OHV areas, and information from law enforcement as well as a summary of information from relevant studies and articles on environmental concerns, safety, economic impact, and relevant case law. The report synthesizes information about policies in other California counties (contained in general plans and other documents) that may be useful for local planners, while maintaining its focus on local issues. The report also includes several maps of OHV areas in the county, a list of stakeholders to include in the process of policy development, and recommendations for future research.

Although OHV use is increasingly popular, many counties in California do not have policies to encourage OHV growth in a responsible manner in certain places. Some counties do not need policies because they lack OHV areas while other counties do not develop policies because OHV use occurs only on federal land. In Nevada County, private lands and county-owned or leased lands fall under county jurisdiction. There are

also federal lands used for OHV activities that are under the jurisdiction of the United States Forest Service or the Bureau of Land Management. This study will provide the Nevada County Planning Department with information that can assist the department to develop more detailed OHV policies. Once the preliminary staff report is analyzed by the planning director, a plan will be developed for specific policies, and a formal staff report will be submitted to the Board of Supervisors, allowing this body to make educated policy decisions.

The literature review looks at articles and documents on OHV use as well as environmental and health concerns. A policy analysis of county, federal, and state documents provides information about which policies are in place in different California counties. The preliminary staff report for the Planning Department narrows the application of research to Nevada County.

Significance of the Project

This project addresses an area of planning that is relatively neglected, considering the increasing popularity of OHV use. There is little local control over or involvement in OHV use in most counties of California because most use occurs on federal or state public lands. The preliminary staff report will allow Nevada County to assess whether there is a need to pursue more detailed policies. A policy may ultimately focus on zoning regulations, trail designations, or on attempts to connect trail systems to minimize disruption on private parcels. The degree and orientation of intervention in California is not uniform. Some counties have encouraged OHV development for economic benefit while others have restricted OHV use due to environmental concerns.

As noted earlier, Nevada County only briefly mentions OHV use in its General Plan and does not have any specific local government-adopted guidelines to “encourage” the growth of OHV use or to identify where use can be “accommodated” as stated in the policy. Synthesizing information and providing a summary of current policies in California will inform the development of policies that are appropriate to the county.

Limitations of the Project

There are limitations to applying the literature and document study to the case of Nevada County. Much of the research on OHV use is specific to geographic areas, some of which are quite dissimilar to Nevada County. While some areas have conducted studies on the environmental impact or injuries and deaths from OHV use, Nevada County does not have similar information available.

Lack of “past practice” references is another limitation. It is difficult to develop a policy for Nevada County when many similar counties also lack policies. The counties in California that do have them differ in their geographies and demand for OHV areas, making comparisons challenging. What works for one area may not work for another based on local needs, environments, and climate. San Diego, for example, has detailed OHV policies in its county General Plan which may provide a baseline for how much a county General Plan can do to set OHV-related goals and objectives. However, these policies were developed as a response to the numerous state and federal OHV areas located near residential areas, something that is not as urgent an issue in Nevada County.

Finally, in order to create a responsible plan for OHV use, more research will be required with the assistance of other agencies, including the USFS and the BLM.

Sheriff's Office reports, hospital records, an environmental impact study, and information from OHV users groups would all be beneficial when considering how best to proceed.

Definitions of OHVs

The California State Parks Off-Highway Motor Vehicle Recreation (OHMVR) division defines an off-highway vehicle as "Any motor vehicle operated off-highway" (California State Parks 2013). However, the broad category of OHV includes a number of other vehicles specifically recognized by the OHMVR:

- 4x4s: a vehicle with four wheels that is also equipped with four-wheel drive
- All-terrain vehicle (ATV): a small motor vehicle that has either three or four wheels and is designed for use on various types of terrain
- Dirt bike/motorcycle: a motorized vehicle with two in-line wheels
- Jeep: a specific type of 4x4; this vehicle was originally developed by the military for use in WWII and now refers to the company that produces the vehicle
- Sand rail: a lightweight vehicle with four wheels built for traveling on sand
- Snowmobiles: an open vehicle with runners and a continuous track used for traveling on snow

CHAPTER II

REVIEW OF LITERATURE

Introduction

The increase in OHV use in the United States since the 1970s has led to a growth in the studies of their impacts on soil compaction, erosion, and water quality. Another major focus is on the safety of OHV use. The literature thus reflects real debates about opportunities as well as problems that come with the increase of OHV and can thus serve as a guide to this project.

The intent is to give an overview of issues concerning OHV use while maintaining a focus on the utility of this literature for creating policy for Nevada County. Because the thesis project is focused on Nevada County, there are limitations to this review. Many studies are outdated or specific to different kinds of ecosystems than that found in Nevada County, as noted above. For example, environmental studies on soil compaction and water quality often focus on dunes and deserts. Similarly, policies and legal decisions are usually quite specific to the areas that gave rise to them, and each decision reflects geography and values that are unique to communities. However, studies and policies can provide an overview of what to consider while developing policy in Nevada County.

Environmental Effects of OHV Use

One concern about OHV use is its environmental impact. As OHV use has increased in popularity, groups such as the Sierra Club have filed lawsuits to minimize the access of OHV users to some sensitive regions. Other groups and individuals have also conducted studies on the impact of vehicles on soil, plants, and water. The literature includes approaches that range from restricting access for OHV riders to mitigating impacts and to restoration.

Soil compaction is one of the main environmental side effects of OHV use. A study conducted in 1982 in the Mojave Desert found that increased OHV use, particularly by heavier vehicles, leads to soil compaction. The researchers conducted field studies by having a 1975 Ford Bronco and a 1973 Yamaha motorcycle make a number of passes over soil in the Mojave Desert. The heavier Bronco had more of an impact on the soil, but the results showed that any compaction of the soil, regardless of extent, can affect plant growth (Adams et al. 1982). The more passes made, the more compaction occurred, meaning that once damage has occurred, the impact can continue to worsen with additional use. Soil compaction changes the density, strength, and permeability of the soil and is related to erosion (Ouren et al. 2007). OHV use destroys soil crusts that stabilize soils and prevent soil erosion. The crust acts as a natural barrier, but when it is disturbed, it reduces permeability of the soil as it is compacted. This in turn affects water runoff and leads to erosion.

These changes in the soil impact vegetation because root systems are not able to push through the soil or to receive enough water. The loss of vegetation, along with damage to the soil crust, further increases erosion. Areas near waterways are especially

sensitive to changes in the soil where soil erosion and runoff can change water courses. In response to concerns over soil health, in 2004 the California State Parks agency worked with with the California Geological Survey (CGS) to update the 1991 Soil Conservation Guidelines/Standards for Off-Highway Vehicle Recreation Management. This project helped establish measurable levels of soil disturbance that could be applied to all sites in the state which varied by different soil types and vehicle uses. These standards are applied to State Vehicular Recreational Areas but may also be used as guidelines for all OHV use (Bedrossian and Reynolds 2007).

Loss of vegetation from compaction and erosion can affect soil stability. Deserts and beach environments are of particular concern because these fragile ecosystems are popular with OHV users (Schlacher and Thompson 2008; Foster-Smith et al. 2007). A study conducted in 1983 by Luckenbach and Bury concluded that “even minor levels of ORV [off-road vehicle] use can cause a reduction in the biota of dunes ecosystems” (280). This study addressed OHV use in the Algodones Dunes, part of the Sonoran Desert in Imperial County. The Desert Protective Council, formed in 1954, has protested development and aggressive OHV use in the Mojave and Sonoran Deserts. These early studies concluded that OHV use results in soil compaction, leading to other connected environmental issues. The impact of soil compaction and other related vegetation and habitat changes is not the same in every desert environment. The Imperial Sand Dunes in southern California are dynamic, and tracks made by OHV users disappear quickly, while other desert ecosystems have more sensitive soil and recover slowly after disturbances (Government Accountability Office 2009).

Although early studies focused on beaches and dunes, more recent research has taken other ecosystems into account. Forest Service officials working in the Manti-LaSal National Forest in Utah and Park Service officials in Big Cypress National Preserve reported that soil erosion from OHV use creates environmental impacts in their areas. In forested areas when the soil is compacted in late fall, tracks in the wet ground become more permanent. The officials in Utah reported that recovery takes four to five years, while officials in Big Cypress National Park stated that plant life regenerates quickly but ruts can last more than a decade (Government Accountability Office 2009).

The Forest Service looked at the impact of ATVs on six areas that were chosen to represent a range of forests west of the Mississippi River (Foltz 2006). The area most closely related to the Nevada County region were the Middle Rocky Mountain steppe-coniferous forest-alpine meadow in Montana and the Cascade mixed forest-coniferous-alpine meadow in Washington. The study found that the impact of ATV use on these two forest environments resulted in reduction in plant cover and an increase in soil erosion. The site in Washington saw increase in sediment loss during runoff.

Dust emission from OHV use can affect human health, fertility of the soil, and proper functioning of ecosystems (Goosens and Buck 2008). A study of the Nellis Dunes Recreational Area near Las Vegas, Nevada, analyzed the impact of three types of OHVs on dust emissions when traveling at various speeds. The dirt bike created the least dust, the four-wheeler created the most, and the dune buggy was in the middle. The study determined that dust emission increases exponentially with an increase in driving speed (Goosens and Buck 2008). Soil type affected emission levels, as well, with silt-covered

surfaces creating more dust than sandy surfaces. Weight, number of tires, and driving speed all affect how much dust is produced by OHVs.

Emissions of OHVs can change chemical levels in the environment and affect water quality. In a 2006 study, snow runoff was sampled in different areas of Yellowstone Park frequented by snowmobiles. Measurements showed that volatile organic compounds (VOCs) did increase but were within water quality criteria and U.S. Environmental Protection Agency guidelines. Polycyclic aromatic hydrocarbons (PAH) also increased. While the PAH levels were also acceptable, the compounds can accumulate because they dissipate more slowly (Arnold and Koel 2006). Spills also impact water quality. Two-stroke engines are especially high polluters that send contaminants into the water system when they are spilled in crashes or absorbed into the soil (Ouren et al. 2007).

Creating trail areas is one way to minimize environmental impacts. A report from the U.S. Geological Survey states, “Prior planning for locating OHV areas before they are opened to the public can preclude undesirable effects of OHV use and costly site restoration” (Ouren et al. 2007). Responsible planning that keeps OHV trails away from waterways and attempts to reduce erosion and compaction can prevent issues from becoming large problems later, but there have also been attempts to restore already damaged areas.

A final area of concern is fire prevention. Off-highway vehicles have been connected to the ignition of wildfires. The exhaust systems and other machine parts can reach high temperatures that, when coming into contact with fuels, may ignite. In addition, muffler systems produce sparks which can occasionally cause fires to start on

combustible materials (Baxter 2002). To remedy these concerns, California Vehicle Code requires all OHVs to have a spark arrester when operating on forest-covered, brush-covered, or grass-covered land (California State Parks 2013). The USFS and BLM also require spark arresters on their land, and the USFS tests and qualifies spark arresters (United States Department of Agriculture 2007).

Restoration

Several techniques can be used to restore areas that have been damaged by OHV use. These restoration techniques can minimize OHV impacts on the environment.

Soil Restoration

Decompaction is a process in which workers or volunteers use “soil spades, spading forks, and shovels to loosen the top two to six inches of soil” (U.S. Department of the Interior 2005, p. 3). It is followed by soil pitting, a process that directs water flow by creating bowls on the ground. These bowls collect water and increase seed germination and plant growth, mitigating vegetation loss. Vegetation growth is also encouraged through soil imprinting, which is the raking of trenches on the soil so that seeds will be collected on the rougher texture. Where minimal OHV use has occurred, raking may correct the damage to the topsoil before it becomes too compacted.

Waterways Monitoring and Restoration

Restoration also focuses on repairing and protecting vulnerable areas. In Sam Houston National Forest in Texas, trail riders groups joined with the USFS to contribute thousands of hours on trail maintenance. These efforts included restoring and installing better water control structures, replacing wooden bridges and culverts, and developing a

plan to manage trails during the wet weather season. The plan also included removing stream crossings near the water and installing free span bridges and culverts in order to improve the habitat for fish, wildlife, and plants (Sam Houston National Forest 2008).

Fiberglass-reinforced polymer bridges replaced wooden bridges. The new material lasts longer and needs less maintenance. In addition, the bridges are now free-span structures, meaning that the piers previously used to hold up the wooden bridges no longer affect the streams. This provides an unobstructed migration pathway for native species. Next, arched culverts replace round metal culverts in stream crossings. The new plastic culverts are open on the bottom, allowing migration of fish, insects, and amphibians through the stream. The arched shape also does not change the water flow of areas at intake and outtake points, reducing soil erosion and making them less likely to wash out (Sam Houston National Forest 2008).

By minimizing soil erosion from OHV use and removing obstructions within streams, the environment is returned to a more resilient state.

Trail Designation

One of the simplest ways, however, to support the health of OHV areas is to designate trails and enforce use on them to minimize the destruction associated with illegal use by OHVs. In 2005, the USFS published a rule for motor vehicle access on lands within its jurisdiction. This rule requires that roads, trails, and other areas be designated specifically as open to motor vehicle use (United States Department of Agriculture 2005). Designated routes are identified on a map and include vehicle class and time of year. Some trails are open to all vehicles, others to vehicles 50" or less in width, and others to only motorcycles. In addition, some trails have seasonal

designations, restricting access at certain times of year (United States Department of Agriculture 2005).

The trail designation process is being undertaken by the USFS in Tahoe National Forest. Decisions about which trails are open to OHV use are made at a local level. The process can be a lengthy one. In 2003 the Tahoe National Forest started the inventory of roads and trails. The next three years included public meetings to explain the process and to review trail inventory maps. The USFS also conducted an online survey to identify user preferences for trails. In 2007 there was a notice of intent to prepare an Environmental Impact Statement (EIS) followed by a 45-day comment period where 3,500 letters and packets were received. In the three-month public comment period in 2008, 7,000 letters and packets were received (United States Department of Agriculture 2005). Both review periods included public meetings and presentations. Stakeholder input was considered while revising the Draft Environmental Impact Statement. The final EIS was issued in 2010, but the Motor Vehicle Use Map remains unavailable due to errors in the map that are being reviewed by the department.

Once trails are designated, signs and barriers can encourage use of legal areas. An environmental assessment for the BLM Office in Palm Springs provided restoration techniques that could help keep OHV use on appropriate trails in Blind Canyon and Big Morongo Canyon. The placement of large rocks is one way to deter use (U.S. Department of the Interior 2005). Rock placement has the added benefits of not requiring equipment and of creating little or no soil disturbance. Fencing is another option, but it does create soil disturbance. In some areas, weed-free rice bales can be used to obstruct OHV travel. This approach is helpful in areas that were previously used for hill climbs. Bales reduce

soil erosion by slowing water running down slopes, and they eventually break down and provide mulching material for vegetation. A final approach is vertical mulching, which is the placement of dead plant material at the beginning of unauthorized trails to disguise the trails and to keep OHV users away. As with rice bales, vertical mulch helps control erosion and provides rich material where seeds can grow (U.S. Department of the Interior 2005).

Clear signs are also necessary to support trail designations. If there are not enough signs in an area, or if their message is unclear, OHV riders may unintentionally cross into unauthorized areas. In addition, private landowners must clearly post signs at all entrances to property before OHV use is considered trespassing. While the California Off-Highway Motor Vehicle Recreation Division recommends gaining the owner's permission before riding on private property, being cited for trespassing is not guaranteed if the area has not been sufficiently marked or fenced. Smaller signs create less soil disturbance when they are installed.

Injuries and Deaths from OHV Use

OHV users are at heightened risk for injuries or fatalities. Accidents are often related to poor OHV maintenance, inexperience, poor judgment, alcohol consumption, and lack of maintenance and monitoring of the trail system. All-terrain vehicles (ATVs) are a particularly dangerous type of OHV. Adult-sized ATVs range from 400 to 600 pounds and can travel over 70 miles per hour. Children are recommended to use smaller sizes, but the speed and tendency to tip over are still risks for them. An average of 254 ATV-related deaths occurred in the United States annually from 1990 to 1994. That

number rose to more than 267 deaths annually between 1995 and 2000 (Helmkamp 2001). While some people argue that safety is a personal responsibility, it is a realistic concern for local governments which incur costs when protecting or rescuing OHV users. Concerns over safety create the need for analysis of response times and accessibility by emergency responders. Encouraging OHV use may have hidden costs including special equipment needed by emergency response teams, transportation to get to remote areas, and personnel. There are intangible costs, as well, such as the loss of life, which cannot be measured.

One special concern is injuries to children. The American Academy of Pediatrics (AAP) has recommended legislation to prohibit the use of 2- and 4-wheeled off-road vehicles by children under sixteen and to ban the sale of 3-wheeled ATVs altogether because of their tendency to flip over. They also provide a list of recommendations to decrease death and injury to children. Such recommendations include speed governors, helmet restrictions, and certification in appropriate ATV use (Bull et al. 2000). As of January 1, 2013, California law requires all people to wear a helmet on public lands when operating or riding any motorized vehicles. This includes USFS and BLM trails and applies equally to drivers and passengers.

Saskatchewan province in Canada has prioritized responding to the use of OHVs, especially ATVs, by children due to similar injuries. Because the province is mainly rural, ATVs are used often for transportation, recreation, and work. The Saskatchewan Prevention Institute states ATV-related injuries are responsible for a “substantial number of cases” in which children age one to nineteen in Canada are hospitalized or die (Saskatchewan Prevention Institute 2012).

While some OHVs, such as four-wheel drive vehicles, are mainly driven by adults, children over fourteen are able to operate ATVs and motorcycles according to California state law. California's vehicle code requires that children who operate an ATV must be at least fourteen and must also have an ATV safety certificate. If a passenger is under the age of fourteen, either the passenger or the driver must possess a safety certificate. Controversially, riders between the ages of fourteen and seventeen may ride ATVs without adult supervision as long as they have received a safety certificate. This allows teenagers to participate in OHV use unsupervised and relies upon them to be responsible for responding to and reporting injuries.

Governments and groups are developing education programs for children. Oregon Parks and Recreation Department created an "OHV safety and education trailer" to educate OHV users, particularly younger ones, about responsible recreation. The message includes safety information and also increases users' awareness of their impact on the environment. Florida passed a statute requiring OHV operators under the age of sixteen to complete an approved OHV safety course. Utah has a similar requirement with a *Know Before You Go!* course but still allows children age eight and above to operate OHVs

Injuries and fatalities among both children and adults can be a result of operator error. Artificial additions to the environment affect safety on off-road trails. The New Hampshire Department of Health and Human Services conducted a study on fatalities involving OHV users and trail gates. Five case studies outline accidents that occurred between 1997 and 2002. Four of the five cases involved minors between the ages of 12 and 17. Of the minors, only the death of the 17-year-old boy was connected to

alcohol use. Two of the children had not taken safety courses. Their inattention led to collisions with gates. The sixteen-year-old boy was evading police who had noticed his unregistered motorbike. The fifth case involving a 31-year-old man was connected to elevated blood-alcohol levels. In the case of minors involved in accidents, the department recommends increased enforcement of OHV operating rules, enhanced gate visibility, improved signage, and driver education (Acerno et al. 2003). The cost of enforcement and response is important to consider since many state and federal agencies face budget cuts. Priorities for these agencies have shifted to enforcement in populated centers rather than monitoring outlying areas.

While the study in New Hampshire focused on collisions with trail gates, the U.S. Consumer Product Safety Commission has been tracking all ATV-related deaths. The number of deaths has increased since 1995. Much of the focus to reduce the number of deaths is again directed at adolescents; more than one-third of the deaths have been riders under the age of 17. In states without safety legislation, the death rate is twice that of states that do implement safety legislation (Helkamp 2001). The comparison of state ATV-related deaths concludes that states who have some level of safety legislation, whether helmet requirements or vehicle requirements, experience lower fatality rates.

ATVs are targeted in legislation and studies because they are one of the most dangerous types of ATVs. In the United States in 2005, there were 666 ATV-related deaths and an estimated 136,700 cases where people received treatment for ATV-related injuries in emergency rooms (Bowman et al. 2009). Injury patterns studied from data compiled at the National Trauma Data Bank illustrated that helmeted riders on ATVs were less likely to sustain traumatic brain injury or to die in the hospital than unhelmeted

riders. While this seems like common sense, the related statistics also showed patterns in helmet use among ATV riders. Men represented 80.3% of the 589 hospitalizations studied, but women had lower rates of helmet use (40.2% compared to 53.1% for men), and unhelmeted patients were slightly older than helmeted patients (Bowman et al. 2009). In a study of injuries occurring at OHV parks and at outside riding areas, ATV-related injuries at OHV parks had a smaller percentage of victims under the age of sixteen, a lower percentage of passenger victims, and a higher percentage of helmeted victims (Denning et al. 2013). At the OHV parks, riders also followed ATV regulations more frequently. This may be connected to the higher level of enforcement of regulations at OHV parks. The results of these studies may change methods used to educate OHV riders so that women and older, perhaps more experienced riders, are included in the discussion about how important safety equipment can be in preventing injuries.

Conclusion

OHV use continues to increase in popularity but it can have significant impacts on a community and on the environment. Main areas of concern include the environmental impact of this use, and the safety for users. Any off-road vehicle use affects the environment, especially in areas of soil compaction and water quality. Policies must also address injuries and fatalities. Teenagers are especially susceptible to injury and death. Despite these concerns, OHV use has many groups that support it and who will fight for its existence. Ideally, counties that have heavy OHV use will establish additional expectations for OHV use that are in agreement with policies developed by

federal and state governments. This approach would provide consistency across public and private lands.

CHAPTER III

METHODOLOGY

The methods used in this project are focused on summarizing and analyzing existing OHV policy in California, synthesizing legal decisions on OHV use, mapping local OHV trailheads, and identifying property owners whose lands are crossed by or adjacent to OHV trails. A county policy will likely include stakeholder input, statistical analysis of OHV use in certain areas, and GIS studies to create a detailed picture of OHV use. The methods in this project, however, are limited to existing OHV policy and mapping of trailheads in Nevada County. These policies and local trailhead maps provided background information used to write a preliminary staff report for the Nevada County Planning Department.

Analysis of OHV Policies by Public Land Agencies

Because much of the OHV use takes place on state or federal lands, policies from related agencies were analyzed. The United States Forest Service and the Bureau of Land Management, in particular, have literature on appropriate OHV use, restrictions, and guidelines on their agency websites. These policies were also considered in the preliminary staff report and are discussed in Chapter 4 along with the General Plans.

Analysis of General Plans

To begin to understand the scope of policy on OHV use in California that will shape the actions of Nevada County, I conducted an analysis of the general plans for the state's fifty-eight counties. After analyzing the general plans, I did a search of other planning documents developed by the counties on OHV use. Next, the counties were searched for OHV areas to see if there are public lands open to OHV use within the county boundaries. Finally, policies of other agencies were analyzed to determine what OHV guidelines and restrictions exist.

The scope of policy analysis was limited to county general plans in California and in one case to community plans in San Diego County where OHV guidelines were in place. I did a categorical search based on content analysis strategies to analyze the documents. Content analysis examines a text for the frequency of certain terms. Relational analysis, a subset of this method, creates concept categories and looks at the connections between frequency and the categories (Colorado State University 2013). While this project did not involve a full content analysis, it drew from the methods to check for key words and to calculate the number of times each word was used.

Each general plan was accessed from its county website. The plans were searched for the terms "OHV" or "off-highway vehicle," and the number of occurrences were tallied. Next, the occurrences were connected to one of two categories: "descriptive" or "policy-related." The "descriptive" category included any references limited to a statement of facts. Such statements included that OHV trails existed in certain areas or that the recreational use was popular in the county. The descriptive category did not establish goals or policies for OHV use. The "policy-related" category

established that the term was used in connection with a goal or policy addressing OHV use.

After the initial search for “OHV” or “off-highway vehicle,” each plan was searched for related terms. “Vehicle” was used as a broad search term, although most “vehicle” results were not connected to OHV use. This broader search showed connected terms used by the counties such as “off-road vehicle,” “all-terrain vehicle,” or, in some cases, “motorized vehicle.” These results were also categorized as descriptive or policy-related. A summary of results is displayed in appendix B.

The categories demonstrated whether a county truly addressed OHV use or simply included it as part of the larger background. For Nevada County to pursue more detailed OHV policy, the counties who have already developed specific policy related to OHV use will provide a model of what can be implemented within the general plan.

Since not all counties deal with OHV use in their general plans, a wider county website search using the terms “OHV” or “off-road vehicle” showed if the county had other documents with OHV policies. These documents were also analyzed to see the different approaches taken.

Online Search for OHV Areas

An online search was conducted to determine which counties in California contain public lands open to OHV use, assuming that counties with less OHV use would not be as likely to need or to develop related policies. Due to the number of websites referencing OHV trails, the scope was narrowed to United States Forest Service maps, BLM trails, county websites, and relevant OHV user group websites. Government

agencies and larger OHV groups were more reliable because they could reference areas where OHV use is legal rather than individual blogs or websites that recommended questionable riding areas. This search placed additional focus on those counties where OHV use is widespread rather than including counties that do not have public OHV areas available.

Analysis of OHV Court Decisions

After analyzing OHV policies, I researched court decisions connected to OHV use. Many of these involved cases against federal agencies. Certain court cases were selected for discussion either because of the significance of the final decision or because they are representative of a number of other cases.

GIS Presentation of Nevada County Trail Areas

Finally, I created a series of maps to illustrate recognized OHV trailheads within Nevada County. I identified these trailheads based on information from the Sheriff's Office as a first step. Next, I attempted to get trail data for each of the areas listed in the Sheriff's reports. I discovered that the USFS has not finalized any information on the trails in Nevada County because the Tahoe National Forest Travel Management Plan has not been completed. Initially, the office allowed me access to data, but that information was later pulled because of errors that they found with the mapping. Many of the areas identified by the Sheriff's Office do not have set trails. The landscape allows for "area" riding rather than precise "trail" riding. As a result, in the maps I identified trailheads and the general area covered.

I used USFS data to map the privately-owned parcels affected by USFS trails and symbolized them in a red color. Although I am not able to display or distribute which trail crosses these parcels, the map provides a view of areas affected by OHV use in the eastern part of Nevada County as well as of private landowners which would be valuable stakeholders in a discussion of OHV policies. I displayed the public-owned land and privately-owned parcels with a simple crosshatch of different colors to delineate between different kinds of land ownership. Since the trail data does not exist for a large portion of the western county, I displayed trailheads and land ownership in a way that could illustrate where conflicts might occur. The maps also contain insets that display an overview map of the location of the OHV trailhead within the county and a small picture of the most current aerial photo the county can access. I then used ArcGIS 10.1 to create a layout for one of the maps and used a tool called Data Driven Pages to set the parameters to generate the subsequent maps.

CHAPTER IV

RESULTS OF THE POLICY REVIEW

Off-highway vehicle policies are created by federal, state, and local governments. Specific policies depend upon which agency has jurisdiction over an area.

OHV Policy by Public Land Agencies

Much of the land where OHV use is a viable option belongs to the federal government. Two main agencies have developed policies that attempt to maintain the integrity of the land. The Department of Agriculture oversees the United States Forest Service and controls regulations on National Forest Service lands. The USFS manages about 300,000 miles of National Forest Service (NFS) roads nationwide that are open to motor vehicles. It also oversees about 133,000 miles of trails (U.S. Department of Agriculture 2005). The majority of users on the trails are non-motorized, but a portion of the trails are open to motor vehicles. In 2005, the USFS revised regulations on motor vehicles. It explained that the existing regulations were developed “when OHVs were less widely available, less powerful, and less capable of cross-country travel than today’s models” (U.S. Department of Agriculture 2005). The USFS created what it called a “new travel management rule” to provide a system of how to plan for OHV use. This system allows for public input and tries to balance the needs of different user groups.

The planning process is outlined in a report from the United States Department of Agriculture (USDA). The USFS sought input from a number of stakeholders, including many citizens who had concerns about maintaining OHV use as well as people who cared about the health of the land. The revisions passed in 2005 include public input in designating NFS roads and trails, new definitions of terms, and clearer policies for OHV use. Subpart B, Section 212.55 addresses criteria for designation of roads, trails, and areas. Trails are classified according to vehicle use and time of year, and motorized vehicles are prohibited from using non-designated trails. As part of the process used to select trails, officials designate areas where they believe damage of soil, watershed, and vegetation, harassment of wildlife, and disruption of wildlife habitats will be minimized (U.S. Department of Agriculture 2005). Acceptable levels of damage, however, are not defined. Nevada County includes part of the Tahoe National Forest; the travel management plan will eventually apply to OHV areas within the county. The county did not participate directly in the process to develop the travel management plan, so it missed the opportunity to create a more comprehensive, multi-agency plan.

The United States Department of the Interior also creates policy for off-highway vehicle use under the Bureau of Land Management (BLM). In 2001, the BLM published a strategy for OHV use on public lands which addressed the public's concern with natural resources and the cumulative effects of OHV use on the land. Five management goals developed out of this consultation with the public: Create a thorough analysis of motorized OHV issues and concerns; achieve full compliance with the Endangered Species Act; ensure that OHV designations are completed according to land use planning guidelines in compliance with Executive Orders; use scientific and social

research projects to assess the range of available motorized OHV-related scientific information; and achieve effective implementation of air quality and noise reduction standards (U.S. Department of the Interior 2009). While these are important goals, acceptable levels of disturbance or measurable amounts of acceptable environmental impact are often left open to interpretation and are resolved judicially.

Despite the general guidelines, federal agencies do have the ability to control OHV use on their lands. The BLM issued a two-year emergency closure of Sawtooth Canyon Campground in Southern California due to noncompliance issues regarding green sticker vehicles. Violators can be fined up to \$1,000, receive up to one year in jail, or both (U.S. Department of the Interior 2011). The USFS has similar enforcement capabilities. The ability to close areas and to assess penalties for violations gives powers to the federal agencies, but monitoring the areas to catch illegal users can be difficult.

General Plans of California's Counties

The analysis of general plans within California's 58 counties provides a general overview of how OHV use is presented within these documents (for results of general plan policies, see appendix B). In summary, most counties in California contain public lands open to OHV use but do not include policies within the general plan to address such use. Two counties use the terms "OHV" or "off-highway vehicle" exclusively while five counties use only connected terms such as "off-road vehicle." An additional four counties use a combination of these terms. Overall, eleven counties (nineteen percent) mention some type of OHV use within the general plan. Out of these eleven counties, seven contain policy-related language while four have only descriptive

mention of OHV use. It appears that counties with elevated OHV use have public areas set aside for this use, even if they have not explicitly made OHV use part of land-use plans. These areas are often on state or federal lands. Fifty counties have public lands open to OHV use for riders, while only eight counties have no public OHV areas available. This information is displayed spatially in figure 3.

Nevada County is included in the seven counties with policy-related mention of OHV use within the General Plan. Nevada County's General Plan makes one mention of OHV use in the Open Space Element, Policy 6.7:

Nevada County encourages the location and development of motorized off-road facilities on lands where such use can be accommodated. The location and development of such facilities shall include consultation with the State Department of Fish and Game as well as other responsible agencies. (Nevada County, CA 1996)

The policy is vague as is appropriate for a General Plan, but the County Code does not expand upon the statement, and even County employees are unsure how the approach to OHV use should be implemented. With the current conflict over closure of USFS trails, there are few areas where off-road facilities are allowed, and there has not been any movement by the County to encourage locating or developing more.

Counties with No Public OHV Areas

Amador, Marin, San Francisco, San Mateo, Santa Cruz, Solano, Sonoma, and Sutter counties do not have any county, state, or federally-owned public areas available for OHV use. Reasons for lack of OHV use vary. For example, San Francisco County is relatively small and developed, making it ill-suited for OHV use. San Francisco, San Mateo, and Santa Cruz also have coastal areas with fragile beach ecosystems which can be severely impacted by OHV activities. Policies exist to make land inaccessible to OHV

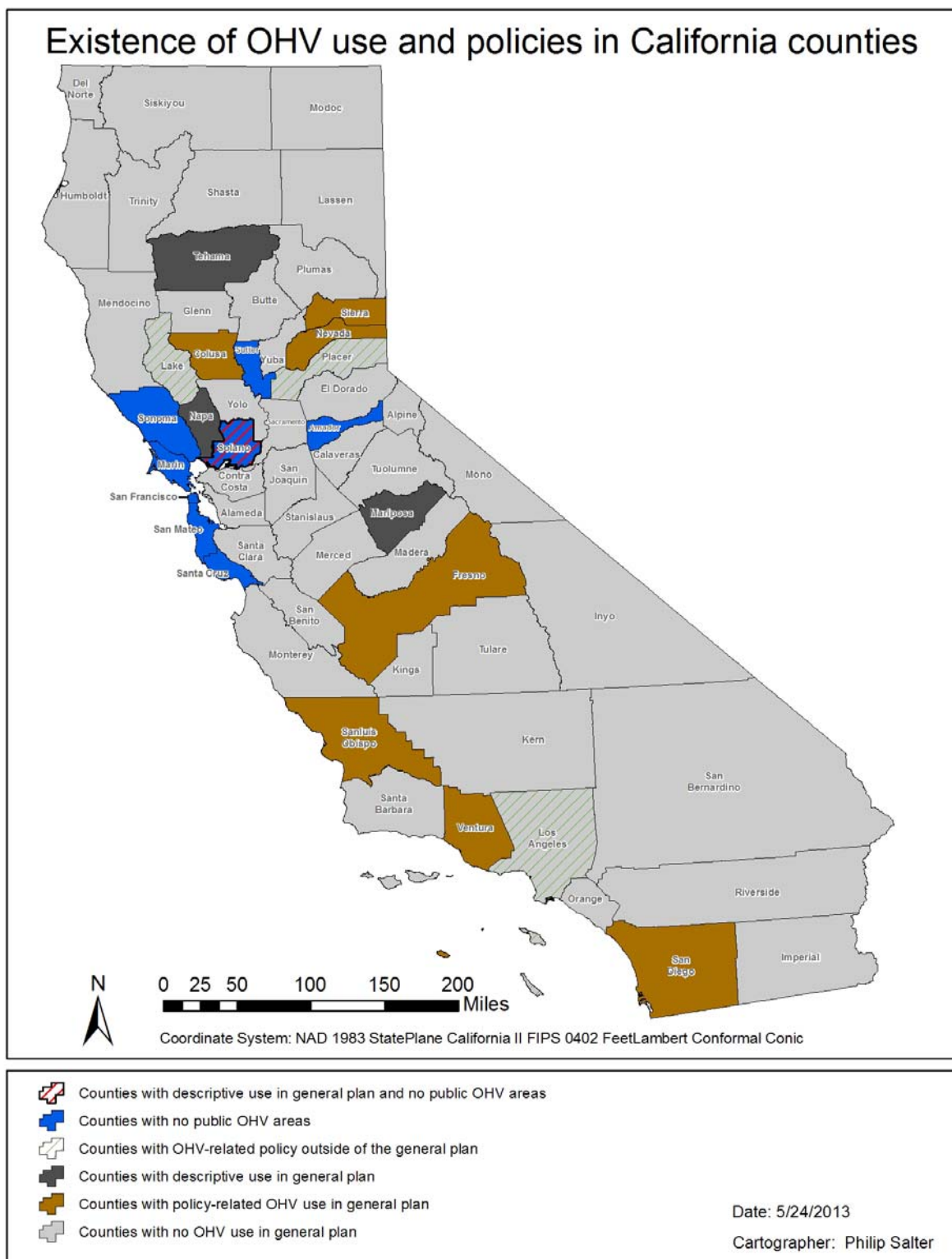


Figure 3. Existence of OHV use and policies in California counties.

use. Finally, all of these counties are located near other counties with public lands where OHV use is available. In Amador County, OHV use occurs on private property.

Santa Cruz County addresses OHV use in a preventative manner within the Santa Cruz County Code rather than in its General Plan. The Santa Cruz County Code is based on Ordinance 5127, passed on May 15, 2012. Chapter 9.52 in the code addresses off-road motor vehicles. Under the purpose of provisions, the document states,

It is necessary to regulate the operation and use of motorcycles, motorbikes, motor scooters and similar vehicles on public and private property throughout the County in order to prevent damage to plants, wildlife, wildlife habitat, water resources, historic sites, soil erosion and property damage, fire hazards, and noise pollution. (Santa Cruz County Code 2013)

This ordinance was clearly established with a focus on the impact of OHVs on the environment. As no public lands are available for OHV use in Santa Cruz County, there is not a conflict between federal or state policies and the restrictions placed upon OHV use within county code.

The lack of public lands open to OHV use in these seven counties may help explain why addressing OHV use in the general plan is not a priority.

Counties with Public Lands Open to OHV Use but No General Plan Policy

The majority of counties in California (forty of fifty-eight) contain public lands open to OHV use but have no policies within the general plan to monitor this use. While counties do not have jurisdiction over federal land, they do have the ability to develop their own policies that maintain an approach consistent with that of other agencies. There are a number of reasons why counties may choose not to participate in the process, however.

First, many of the general plans have not been updated since OHV use became a major factor in recreation. With the number of OHV users increasing steadily since 1970, the impact of the recreational activity has become more noticeable. However, policies reflect the political climate and community “vision” of an area. Although many counties are drafting 2030 general plans, if no groups, whether pro- or anti-OHV use, are pushing for legislation, counties may not feel the need to address the issue in their general plan.

The most influential reason for the absence of policy, though, is that the majority of OHV use in California occurs on state or federal land (especially USFS or BLM). In these cases, counties do not have the jurisdiction to make decisions. When state or federal agencies already have policies developed, it may seem unnecessary to pursue local control. On the other hand, there can be spillover effects of OHV use on public lands, such as the impact to properties which OHV riders cross to reach public lands, noise, and pollution that does not stay on public lands. Response to accidents and to disputes often falls within the jurisdiction of counties as well.

Counties with Descriptive OHV Use in General Plan

As mentioned in the methodology chapter, results were categorized into either “descriptive” or “policy-related.” Of the eleven counties whose general plans address OHV use, four counties only mention OHV use in a descriptive manner without detail on how to plan for that use. Solano County mentions that off-road vehicle parks are difficult to site and also notes the location of a private facility. Tehama County includes three

OHV trail systems within the plan, referencing National Forest areas that are part of the county but that do not fall under county jurisdiction.

In Mariposa County's general plan, off-highway vehicle driving is addressed in Chapter 10 on regional tourism. The plan states that OHV use is identified as one of the five slowest growing outdoor recreation activities in the county. As this county includes Yosemite National Park, there is good reason for OHV use to not be one of the top outdoor activities. Mariposa County lists 1,453 miles of motorized trails in the Stanislaus National Forest and 103 miles of motorized trails in the Sierra National Forest.

Napa County's General Plan specifies that there are twenty-five miles of off-highway vehicle dirt roads and trails that are open to the public, located in the Knoxville Recreation Area and owned and operated by the BLM. While the existence of OHV areas is identified, there are no guidelines or goals for the future. Instead, the Recreation and Open Space element states,

Because the ultimate alignments of all three regional trails are currently the subject of active discussion and planning, no alignments are designated in this General Plan. Instead, the County intends to work closely with the sponsoring agencies and other interested parties to determine appropriate alignments. (Napa County 2008)

The alignment to which the plan refers is the Bay Trail project that would connect trails between Napa and surrounding counties to create a network of trails for public use. Goals include the expansion of non-motorized trails on county lands but nothing about OHV use.

Solano County's Parks and Recreation element states, "Shooting ranges and off-road vehicle parks, are, perhaps, the most difficult facilities to site due to anticipated impacts of noise and safety hazards" (Solano County 2008). In the needs analysis, one

off-road vehicle facility is identified: Argyll Park. The facility is privately owned and operated. The county may want to develop regulations because private land falls under county jurisdiction, but currently that is not part of the Solano County General Plan.

Tehama County's general plan briefly mentions OHV use. The plan states that Mendocino National Forest and Lassen National Forest offer recreation opportunities including a large off-road vehicle trail system. This is mentioned along with other activities such as fishing, picnicking and horseback riding. Black Butte Lake is also identified as having a large off-road vehicle area. Despite the availability of OHV areas in the county, the General Plan does not outline policies or goals for OHV use. Interestingly, Policy OS-3.5 focuses on controlling and eliminating invasive plants from spreading in Tehama County. The spread of invasive plants can be affected by OHV travel, but off-highway vehicles are not mentioned in the implementation measures.

None of these plans clearly addresses OHV use or sets policies, so the inclusion is superficial. While they recognize that OHV use is part of the county character, there are no policy decisions to direct the activity. A search of these county websites did not find any other documents related to OHV regulation outside of the general plan.

Counties with Policy-Related OHV Use in General Plan

Seven counties in California include OHV use in their general plans in a more proactive way. These counties include connected policies that allow them to direct the activity or to set connected goals. Of these seven, three mention OHV use in both

descriptive and policy-related ways within the general plan. Nevada County is included in these seven counties.

Colusa County's updated General Plan includes more references to OHV use than its previous plan. Objectives and policies connected to identified goals include prohibiting use on nonmotorized trails, supporting development of an OHV park, encouraging OHV use, and assisting in identifying appropriate locations for OHV areas. The policies do not, however, specify the land type for appropriate locations. This plan provides a general plan model of a county that is promoting OHV use within reasonable limits.

Fresno County's General Plan sets goals that will control OHV use to prevent erosion and will prohibit use on nonmotorized recreational trails. Unlike Colusa County, Fresno's focus is on limiting use and preventing environmental damage. Policy OS-A.25 refers to controlling use of off-road vehicles and specifies that grading activities will be discouraged during the rainy season unless adequately mitigated. The restriction could also be applied to OHV use and provides an example of environmental protections that could be put in place in Nevada County's General Plan.

San Diego County specifies that all noise goals and policies also apply to OHVs. More details are listed in nine community plans within San Diego County (see table B-2). All nine address policies related to OHVs. Common themes are reducing noise, identifying areas of OHV use, preventing OHV use on non-motorized trails, and preventing additional off-road vehicle use areas. Many of these areas are responding to Ocotillo Wells, a popular OHV area under the jurisdiction of the California Department

of Parks and Recreation that creates noise pollution and large amounts of dust during periods of high use.

San Luis Obispo's General Plan includes a policy within the Open Space element specifically for off-highway vehicles. Policy OS 2.10 states "Work with County departments and applicable local, state, and federal agencies to provide workable solutions to off-highway vehicle (OHV) uses." The implementation strategy states that the County will coordinate with other agencies to encourage the,

. . . prohibition of OHVs on public lands where the vehicles conflict with the adopted plans of those agencies or County plans and ordinances, conflict with uses of adjacent County-owned properties, result in damage to sensitive resources, or are causing trespassing and destruction on adjacent private lands. (San Luis Obispo County 2010)

Many points of this cooperative strategy could be applied to Nevada County where there are conflicts with USFS adopted plans and with trespassing on private lands.

Sierra County's General Plan references the Plumas National Forest Management Plan (1988) that emphasizes the goal of minimizing conflicts between recreational uses, especially between motorized and non-motorized uses. The section of the plan intended to help manage the Toiyabe National Forest Land includes the goal of evaluating OHV damage areas and restricting use, as well as rehabilitating the damaged land. Ultimately, however, the county plan would be superseded by the USFS.

Noise is also a concern. Policy 10 states:

The County shall work toward the separation of noise incompatible recreation uses and shall prohibit new sources of incompatible recreation noise. The use of off-road vehicles such as trail bikes, mini-bikes and snow mobiles should only be allowed in areas where the resulting noise is consistent with the county's exterior noise level standards and is compatible with adjacent land uses. (Sierra County 2012)

The implementation measure accompanying this policy is the conditional use permit process in recreation and forest areas. Policy 11 states, The County will work toward limiting unwanted noise from recreational vehicles. The County shall actively and vigorously enforce State noise standards for recreational vehicles (boats, snowmobiles, etc.) and request that the Forest Service do likewise” (Sierra County 2012). This implementation occurs through enforcement of State noise standards listed in the California Vehicle Code. None of the goals or policies in the recreation element addresses OHV use; instead, they focus on providing recreation that preserves the quality of life and environmental quality of the county. In Sierra County, the focus is on limiting OHV activity to preserve the environment rather than encouraging such use for other benefits.

Finally, Ventura County provides a very general statement in setting the goal of meeting the needs of all users, including “other trail user groups.” This statement is not elaborated upon and does not provide much direction for developing clear policy.

Counties with OHV Policies Outside of the General Plan

The general plan and accompanying code are not the only documents in which OHV use may be addressed within the county. Some counties have found more effective ways to provide guidelines for OHV use in integrated regional planning or in plans targeting OHV itself.

Lake County addresses OHV use in the Clear Lake Integrated Watershed Management Plan, which was adopted by the Lake County Board of Supervisors on

March 2, 2010. The existing trail systems in Lake County have changed water flows and transported sediment. OHV travel has also affected ecosystems by changing stream channels and banks, damaging vegetation and increasing erosion. The changes in the environment are identified as impacting fish populations. Lake County is attempting to increase non-motorized trails, but the BLM Cow Mountain Recreation Area and Mendocino National Forest Middle Creek watershed both attract large numbers of OHV tourists. Unauthorized OHV use on private land is a problem in some areas, too (County of Lake 2010). The Mendocino National Forest and BLM both discourage off-trail riding and attempt to repair damage through scheduled trail maintenance, but funding for monitoring and maintenance has decreased. In the management plan, Lake County seeks to provide a system that will service residents and visitors while still protecting the ecosystem. The plan identifies OHV use as a major land use issue on public lands where road construction and operation are sources of erosion. The county mapped 1,500 miles of unpaved roads, trails, and firebreaks in the Clear Lake Watershed. Nevada County could participate in a similar mapping project, but it may be unnecessary since the USFS has much of the needed data on the location of USFS trails and plans to release it later this year.

In June 2011, Los Angeles County adopted Off-Highway Vehicle Park Planning Guidelines after conducting outreach with stakeholder groups and the general public. The project team started by creating an advisory committee, holding multiple public workshops, publicizing the activity in the media, and creating a website that posted meeting and workshop announcements, newsletters, and input summaries. The advisory committee was formed of members who represented various stakeholder

interests: environmental organizations, OHV riding groups and advocates, law enforcement representatives, federal and state government organizations, non-motorized trail advocates, and local communities. Russ Guiney, the director of the Department of Parks and Recreation, adopted the guidelines after increased interest and concern around OHV activity by users and landowners. The 140-page document creates a framework for “identifying, evaluating, and planning new OHV parks, trails, and staging areas” (County of Los Angeles 2011). Stakeholder input is constantly evolving, so although guidelines have been adopted, the County developed a Los Angeles County Off-Highway Vehicle (OHV) Dialogue website so that stakeholders can continue to represent their views.

Placer County also addresses OHV use outside of its General Plan.

McKinney-Rubicon OHV Trail maintenance is a section of the road construction project budget. The Lake Tahoe Basin Forest Plan mentions increasing concerns about OHV noise within the Desolation Wilderness. The Rubicon Trail is a section on the Public Works website page, but a disclaimer states that the trail is not owned or operated by Placer County. Ownership falls to the USFS, BLM, and Sacramento Municipal Utility District (SMUD) as well as to private owners. The information page about the trail describes it as the premier OHV route in the United States and the “crown jewel of all off-highway trails.” This page also mentions erosion, damage to the area, and a spill kit depository allowing OHV users to responsibly dispose of contaminants by collecting the hazard and affected soil and depositing it in containers. In February 2005, Judge Lawrence K. Karlton of the United States District Court for the Eastern District of California handed down a decision that the El Dorado National Forest (ENF) 1990 OHV Travel Management Plan was in violation of NEPA and that plan was removed in June

2005. In August the ENF released an interim forest order restricting all private property motor vehicle transportation to only USFS roads. Prior to the court order, vehicles were allowed to travel off-road. Implementation includes increased ranger presence and fines for non-compliance. With ownership of the major trail system falling to other agencies, the county has not developed guidelines for use other than stating that they recognize the public easement and public rights to pass on the trail.

Legal Decisions

The number of court cases has grown as OHV use has increased. This section of the results chapter looks at court cases that have been described in legal journals as well as in public documents. As case law is constantly evolving, the following cases are presented in chronological order.

One area of legal interest in OHV use is that of safety. When a government – local, state, or federal - allows OHV use on its land, there is the possibility of lawsuits from injuries or deaths. In *Astenius v. State*, 2005, two children of a woman who died in a trail accident filed a suit against the State of California. They argued that their mother, an experienced OHV user, sustained injuries after a crash on a trail that was not marked as hazardous. The court ruled that the State of California could not be held responsible for the fatality, noting that California Government Code Section 831.4 provides that a public entity is not responsible for an injury that is caused by a condition of an unpaved road that provides access to “all types of vehicular riding.” The court’s decision held that an OHV accident on state land, as long as the land is unpaved, is not the fault of the

government. Such a decision may strengthen a government's willingness to allow OHV use because users participate at their own risk.

One influential court decision now allows rider groups to represent themselves in cases to support OHV use on public lands. In January 2011, a decision in a case brought by the Wilderness Society against the United States Forest Service and various OHV groups changed the "federal defendant" rule (*The Wilderness Society et al. v. U.S. Forest Service et. al.* 2011). This rule, implemented in 1998 as part of *Churchill County v. Babbitt*, had prevented anyone other than the federal government from intervening in claims under the National Environmental Policy Act (NEPA). In practice, this legal piece prevented any outside parties from participating in lawsuits in order to represent their interests. In the case involving the Wilderness Society, Judge Barry G. Silverman wrote that the "federal defendant" rule was at odds with normal standards applied in other cases and would be abandoned in considering the current case. Recreational groups now have the legal right to represent their interests as part of the defense in court cases that involve environmental issues. Previously, they could only become involved as plaintiffs or as actual defendants.

Environmental groups are often active plaintiffs. The Wilderness Society is an environmental group that has filed multiple cases opposing OHV use. In *The Wilderness Society v. Kane County*, the group joined with the Southern Utah Wilderness Alliance to file a suit against Kane County, Utah, in October 2005. In 2003, Kane County had replaced Bureau of Land Management signs with their own and had allowed OHV use on certain trails. Kane County believed that Revised Statute 2477, dating from 1866 and Reconstruction era legislation, allowed them jurisdiction over the federal lands in

question. The statute granted a right of way for construction of highways over public lands that are not reserved for public use without requiring establishment of a valid right-of-way, meaning that local governments did not have to ask permission first. However, the district court ruled against Kane County, stating that the county must first prove its right. In a dissenting statement, Judge Lucero wrote that it is important,

. . . to ensure that interest groups, which do not share the governments' interests in comity and cooperation, should not be allowed to hijack this process... By holding that counties have no valid existing rights to manage or maintain roads over federal land without first going to court, the majority today has made mutual accommodation more difficult. (*The Wilderness Society et al. v. United States Forest Service et al.* 2011)

This statement highlights one issue in the debate over land use; if local governments will be taken to court for making decisions about federal land use within their own counties, it is easier to leave complete control at the federal level and to not get involved. The federal court ultimately agreed with Lucero, and the initial decision was overturned in January 2011. In the appeal, the United States Court of Appeals agreed that it was not the role of the Wilderness Society to sue on behalf of the federal government because the government itself had not filed a claim against Kane County (Adams 2013).

Environmental groups have secured rights in legal decisions regarding appropriate use for OHVs. In January 2011, ten environmental groups presented a remedy request against the United States Bureau of Land Management (BLM) and won. The request was a follow-up to a 2009 decision that ruled the BLM did not adhere to its own regulations requiring Environmental Impact Reports to be conducted prior to making changes in an area and, as such, violated NEPA. The ruling by U.S. District Judge Susan Illston ordered protective measures including new designation of OHV routes, signs, a

monitoring plan, and additional enforcement to prevent illegal use (Clarke 2011). The plaintiffs did not receive all of their requests, however, including the closing of some areas where illegal OHV use had historically occurred. The BLM has the opportunity to respond to concerns before areas will be closed.

The Sierra Club filed a suit against California Department of Parks and Recreation in January 2012 that petitioned that the department be compelled to amend its General Development Plan for the Oceano Dunes State Vehicular Recreational Area in San Luis Obispo County and ban OHV recreational activities on a leased property. The Sierra Club believed that sections in the General Development Plan were inconsistent with the policy followed in the OHV area and should require changes on OHV use. In the decision, the Second Appellate Court cited use by two million visitors each year and the history of the area in allowing recreational use of dune buggies. The court ruled that an earlier agreement in the County's Local Coastal Plan precluded banning OHV use within the General Development Plan. While ongoing OHV activities may be inconsistent with the rest of the plan, the Sierra Club did not have any legal grounds to pursue the petition. Finally, Judges Yegan, Gilbert, and Perren wrote,

The presumption is that the Coastal Commission, the County, and State Parks have weighed the competing interest and are acting in the best interests of everyone, including the Sierra Club. (*Sierra Club v. California Department of Parks and Recreation* 2012)

The decision in this case gave power to governmental agencies rather than to a private group. Historical precedent in the area and a past agreement were honored because they were in place before restrictions prohibiting use.

As OHV activity has become increasingly regulated, OHV groups have become more involved in legislation about regulations and acceptable use. In October 2012 rider group EcoLogic Partners, Inc. won its lawsuit against the California Department of Parks and Recreation (Burns 2012). The case in Imperial County resulted in a decision that the State Parks violated the California Environmental Quality Act (CEQA) when they approved a project involving signage and fencing without first analyzing the impact on the natural and recreational resources. With the decision in the case, the project approval is no longer valid. For the OHV users, this means that the trails that were closed or scheduled for closure must be reopened until the project is approved after completing an environmental impact analysis report. While it may seem counterintuitive for an OHV group to request CEQA compliance, the case allows them to have representation in the decision rather than allowing the State Parks division to make unilateral decisions. The State Parks had claimed that they were categorically exempt from CEQA because only sign installation was to occur, but the intent of the signage was to shut down areas (Burns 2012). By pursuing the case, EcoLogic Partners, Inc. prevented closure of the area

In July 2012, the local Friends of Greenhorn Group, as well as three other Nevada County groups, filed a suit against environmental groups over OHV use in the Tahoe National Forest. *Friends of Tahoe Forest Access et al. v. United States Department of Agriculture et al.* illustrates conflict over use of the public areas in and near Nevada County. Six local four-wheel drive groups and two individuals filed against the Department of Agriculture, the Forest Service, and connected officials to the court to overturn the Tahoe Travel Decision that limited OHV use in the Tahoe National Forest.

Defendant-interveners in the case included five environmental groups. A November order declined to reassign the case to a different judge, and a decision has not been made in the case to either support the existing closures or to reopen the trails.

These court cases are forming the basis for legal arguments on OHV use. Case law suggests that existing agreements will be honored even if they cause environmental harm. Government policies must be enforced or risk legal action from environmental groups. When legal cases do arise, all stakeholders will have a voice, including OHV users.

Summary

The fifty-eight counties in California have responded to increased OHV use in a number of ways. Eleven counties mention OHV use (or a related term) directly within the general plan; however, not all counties that mention OHV use have a connected goal or policy that allows implementation of a plan. Forty-seven counties do not address OHV use anywhere within the plan. This approach is logical since much of the land upon which OHV use occurs falls into other jurisdictions. Finally, a few counties have special needs on OHV use and have created other documents to provide oversight.

State and federal agencies have jurisdiction over many of the lands where OHV use occurs, so they have also developed plans to manage that use. The USFS and BLM are actively involved in updating plans and policies as needed due to the growth of OHV activity.

Finally, legal decisions influence the development of OHV policies. Both OHV enthusiasts and environmental groups have secured rights in these cases. The court

system is responsible in the final instance for balancing user needs with environmental protection.

CHAPTER V

CONCLUSIONS

Overview

Nevada County is located in the foothills of the Sierra Nevada Mountains in California. It covers 958 square miles and has 98,764 residents (U.S. Census Bureau 2010). There are eight cities in the county: Alta Sierra, Cedar Ridge, Grass Valley, Lake of the Pines, Lake Wildwood, Nevada City, North San Juan, and Rough and Ready. Just under half (48%) of county residents live in rural areas outside of “census designated places.”

Grass Valley began as a mining town in 1850 with many of its residents later employed by the Empire Mine. Ultimately, the network of mines around Grass Valley became California’s richest mining area after producing over four hundred million dollars in gold (Nevada County Gold 2013). The history as a mining town is important because there are areas throughout the county that show the impact of mining, particularly hydraulic, on the landscape and that have been used for OHV recreation.

Off-highway vehicle use is a popular form of recreation in Nevada County. As an indicator of the pervasiveness of this activity in the county, in 2011 the Sheriff’s Department made 1,436 OHV contacts during its patrols. In 2012, the number decreased to 768 contacts. These likely represent only a fraction of the number of OHV users who use county areas, as not every area can be under constant supervision. While studies of

OHV use such as those reviewed above are valuable in determining how Nevada County may want to proceed in developing OHV policy, the county needs to be considered through the lens of its unique geography and community.

The rest of this chapter will approach environmental, safety, and economic concerns on OHV use that exist in Nevada County.

Trail Analysis

The Nevada County Sheriff's Office identifies thirteen OHV areas within their grant application as needing to be actively patrolled due to high use. (A summary of trailhead locations is displayed in table 1 while trailhead maps can be found in Appendix D.) The maps identify trailheads, private parcels, and public lands. Areas shown as a solid red color are private parcels intersected by a USFS trail. Four of the trailheads also are on lands that border Placer County, another issue to consider when developing consistent policy.

The majority of sites are near public land, but some trailheads are on private land (see Appendix C). The intensity of conflicts depends on the site and the surrounding parcels. Some trailheads on or near private parcels do not directly affect residents because the private landowners are timber or utility companies. Other trailheads are near private residences, so the impact is greater. Conflicts between OHV users and private landowners will be discussed later in the chapter.

In addition, seven of the areas have the added complication of the California River Access Law. The Supreme Court has ruled that navigable waterways are owned by the states and are held for public use. There is no technical test for this; small waterways

Table 1. Summary of trailhead locations in Nevada County

Trailhead location	Private land	Public land	Notes
Bear Valley	Yes	USFS	Two private parcels affected by USFS trails
Boca		USFS	
Chalk Bluff		USFS	Private timber companies on surrounding parcels
Deadman's Flat	Yes		BLM lands do not connect directly to road
Greenhorn Creek	Yes	USFS and BLM	Currently closed as per USFS guidelines
Indian Springs	Yes		
Jackson Creek	Yes		Public lands located nearby
Little Truckee River		USFS	
Meadow Lake		USFS	Three private parcels affected by USFS trails
Prosser Hill		USFS	One private parcel affected by USFS trail
Rattlesnake Creek	Yes		
Steepphollow Creek	Yes	BLM	Users must trespass on private parcels to reach public lands
Town of Washington	Yes	USFS	Trailhead on private property; surrounding lands are USFS

that can support a canoe or raft are considered navigable. The public has the right to access land between the waterline and the high water mark (National Organization for Rivers 2013). This covers all non-destructive activities (walking, fishing, etc.). Use of motorized vehicles can be limited or prohibited by state governments, but there is a lack of regulation when private landowners do not lodge complaints. Most waterways in Nevada County are open for public access, including for OHV use, because nobody has

filed a complaint with the state government seeking to have the right-of-way restricted.

The exception to this is Greenhorn Creek where OHV use has been prohibited by USFS.

The Bear Valley trailhead is on the border of Nevada and Placer Counties and has riding areas that extend into Nevada County. It is a mix of USFS land and private property that belongs to a utility company. Two parcels in the northern area are affected by USFS trails that cross onto private land.

Boca and Little Truckee River are two trailheads in close proximity to each other located to the east of Truckee near Boca Lake. The trailheads are both located on public land, and riding areas extend to the north on USFS lands. There are private parcels nearby that may be affected by traffic and noise, but the OHV riders do not need to cross onto private lands to follow the trails.

The Chalk Bluff trailhead is on public land. It extends to the south where there is additional USFS land. There are private parcels surrounding this area which are mostly owned by private timber companies. Chalk Bluff also is within a few miles of the Placer County border.

Deadman's Flat is privately owned by a former mining company. There are some public lands to the south that OHV users can access, but the main road does not lead to the BLM land, meaning that OHV users must cross private property to get there.

Indian Springs and Jackson Creek are both on private property. Riders can use areas up to the high water mark of the creek without being considered trespassing.

Jackson Creek also has nearby public lands.

Meadow Lake has a trailhead on public property. There are three parcels affected where a USFS trail crosses onto private land.

Prosser Hill is on public land. The eastern section has one conflict where a USFS trail crosses private property; however, the majority of the area is open to public use.

Rattlesnake Creek has a trailhead beginning on private property with only a small area of public land nearby for riding. The majority of land in this area is private.

Steephollow Creek is on the border between private and public land. OHV users must trespass on private land to reach trails on public land. It is also located within riding distance of Placer County.

The town of Washington has the main trailhead on a private parcel surrounded by public land, primarily USFS.

Finally, the most contentious OHV area in Nevada County, and extending into Placer County, is Greenhorn Creek. Greenhorn Creek is an area that was closed due to disputes between private landowners and OHV users. The area is mainly a gravel plant leased by a local gravel company. There are pockets of USFS lands in this area, but riders must cross over private lands to access those tracts. Private landowners have complained about the noise and trespassing on their properties as OHV users ride to the gravel plant and USFS lands. However, past practice has allowed the use, and restricting it creates a feeling of dissension among OHV users. The USFS announced that those trails are closed to OHV use, creating more disagreement about the appropriate use of the area. Due to its location between the two counties, interagency cooperation is particularly necessary to regulate OHV use in the area.

Local Reporting on OHV Use at Greenhorn Creek in Nevada County

The use of OHVs in Nevada County is increasingly controversial. As discussed above, the USFS announced plans to close the OHV trails in the Greenhorn Creek area of Nevada County in 2010 after previously mentioning consideration of closure in 2008. Greenhorn is at a lower elevation than other OHV areas in Nevada County, so it is one of the few places accessible year-round. OHV users are also drawn to Greenhorn because of the varied terrain, aesthetics, and ability to be reached only by off-highway vehicles (see figure 8). The terrain includes water crossings, USFS roads, undeveloped trails, and gravel pits formed by hydraulic mining in the 1800s. With the wide variety of landscape, OHV users have different levels of difficulty available in one place and they can enjoy the rural atmosphere. Land ownership includes private residents, BLM, Forest Service, and Hansen Brothers Gravel Company. The presence of private lands has led to issues with trespassing and right-of-way.

Controversy over the announced closure of this area was covered extensively by the community newspaper, *The Grass Valley Union*, which has archived numerous articles related to the Greenhorn Creek area and OHV use, including blogs (Brown 2009; Moormeister 2007; Cacy 2008). In 2007, the Friends of Greenhorn OHV group formed to respond to the threatened closure of BLM parcels in the area. After the USFS announcement, the Friends of Greenhorn OHV group challenged the closure of the OHV trails in an attempt to keep such areas open for public use (Magin 2010). The USFS announcement came before the final travel management plan was completed for the

Tahoe National Forest and led, in part, to the undecided court case challenging the trail closures.

Decisions in Nevada County about appropriate locations of OHV use have been based on a combination of sources including mining claims, private land rights, environmental concerns, and safety. As noted earlier, the Nevada County General Plan does not set specific guidelines for OHV use, and the lack of clear policy in the plan prevents agencies from dealing effectively with stakeholders' concerns. There are no County code documents that expand upon the policy. Relying on outside agencies may be necessary but it also removes some responsibility from the County and it limits the power of local residents to create policies.

Responsibility for the land also needs clarification. Much of the land around Greenhorn Creek is part of Tahoe National Forest and under Forest Service management (Nevada County Planning Department 2002). Other areas are owned by the BLM. Access to the off-road areas also crosses privately-owned land, including that of residents and of the local Hansen Brothers gravel company, although the roads leading to the creek are county-maintained. The Department of Fish and Game and the Army Corps of Engineers are responsible for the lake that feeds Greenhorn Creek and for the waterways. The competing claims and conflict between the stakeholders makes it difficult to have one county policy.

The Forest Service's solution to the continued OHV use on closed areas is to block USFS access roads, but even officials for the department are unclear as to how this approach will work. Historically, blocking access has not prevented use of the area (Magin 2010). According to OHV users, private landowners, and law enforcement,

responsible OHV users are not problematic in the area; instead, the vandals and non-law abiding citizens create problems for local residents and agencies (Moormeister 2007). Preventing access to the OHV areas may discourage responsible users, but many of those users argue that it will not prevent the illegal dumping, parties, and other disturbances in the vicinity of Greenhorn. Enforcement that would prevent the illegal activity requires both time and money from the Sheriff's Department.

Two recent letters to the editor in *The Union* capture the conflict between supporters of OHV use and private landowners who want to restrict use. On January 29, 2013, one private landowner wrote of his frustrations with ATVs near his property in the Greenhorn area. He suggested taking more aggressive, and potentially violent, measures to prevent ATVs and trespassers from coming on to private land. In response, another local resident wrote,

I would say with confidence that 90 percent of the off-roaders who pass by [this] property are, in fact, his not-so distant neighbors...Off-road enthusiasts are often a maligned group. We are not marauders from out of town, but we are your neighbors, their grandchildren, the kid down the block and even the girl next door. (Hanan 2013)

One frustration for private landowners comes from the steps needed to restrict use on their lands. To completely prevent OHV use, the property needs to be fenced off, something that can be cost-prohibitive. If fencing is not feasible, "no trespassing" signs can be posted at all entry points, but even with signs posted, there must be enforcement, and that can be expensive and difficult in rural areas. In San Bernardino County, private property owners came together to pressure government officials to require OHV riders to obtain written permission from landowners before riding on private property. This ordinance, supported by the local residents, was found to be in conflict with section 602.2

of the California Penal Code which requires “no trespassing” signs to be posted and displayed at intervals along boundaries and entry points of the private land (Kahr 2009). Since OHV riders cannot be required to secure permission from the landowner, fencing and contacting law enforcement when “no trespassing” signs are ignored are the two best options for landowners wishing to prevent OHV activity on their lands.

Environmental Considerations

As noted above, Nevada County has heavily forested areas including USFS and BLM lands. OHV users travel through these areas either as a recreational destination or to reach other terrain, such as going through USFS land to reach Greenhorn Creek. Drawing from the results of previously mentioned studies, one could assume that Nevada County would also face plant loss, soil erosion, and sediment loss from increased OHV use, especially when the ground is wet, although no studies have been conducted there. Policies could restrict use during wet seasons; however, the Winter Fun Festival sponsored by the California Association of 4WD Clubs, Inc. occurs in January which often occurs during cold weather and storms. This event is the largest organized OHV activity of the year in Nevada County. It may be useful to restrict use in certain areas rather than to eliminate it altogether. For example, the county may want to restrict OHV use near water crossings during wet seasons but still allow the activity in other areas.

Snow needs to be considered if restrictions are to be made on seasonal use. Of the six major trailheads in Nevada County, five could likely be under snow during the winter. Applying the study from Yosemite, it is possible that chemical compounds from OHV emissions could stockpile during the winter in the snow (Arnold and Coel 2006).

Between concerns about higher soil compaction in wet conditions and trapping of chemicals in snow, it may be beneficial for Nevada County to consider restricting access to those trailheads during the wet season.

Another major environmental concern of OHV use is the impact on waterways. Since Nevada County has a number of OHV areas that include water sources, it is necessary to have plans to minimize the impact on this delicate ecosystem. Increased OHV use can lead to soil erosion, and the sediment released into the streams or rivers can impact vegetation and animal life. At Greenhorn Creek, especially, there is a need to regulate OHV crossings. The shallowness of the creek allows for crossings in many areas, and this travel damages the bed. While the area is closed to OHV use, illegal use is a problem.

Clean-Up of OHV Areas

To support the health of OHV areas, local groups have participated in clean-up events. In 2008, when the BLM and USFS began discussing closure of Greenhorn Creek, more than 100 volunteers coordinated a clean-up. The effort resulted in removal of 3,040 cubic yards of trash and debris including tires, abandoned vehicles, garbage, sofas, and shotgun shells (BlueRibbon Coalition 2008). Local businesses responded by donating trash bags and by taking debris free of charge. The goal of the clean-up was to demonstrate that the OHV community was willing to spend time and energy to maintain the health of areas used for the activity, although such activities had not been coordinated regularly up to that point. Their efforts were fruitless, however, as the area was ultimately closed. Despite input from stakeholders, the USFS made the final decision and OHV

groups felt they were not heard during the input process. The Friends of Greenhorn has been much less active since the decision.

Since environmental concerns are key to OHV policy in Nevada County, OHV groups may volunteer for restoration efforts. As seen at Sam Houston National Forest, trail rider groups can be valuable partners in efforts to maintain affected areas. With some informed direction and oversight from government agencies on which methods to use or to decide which geographic areas are in need of assistance, volunteers could complete projects that may be financially restrictive for the county. Such activities would also strengthen the partnership between OHV stakeholders.

Prioritizing clear markings on trails would be beneficial for Nevada County, considering the conflicts between OHV users and private landowners and the confusion about property ownership on some of the trails. The County would need to collaborate with the USFS, BLM, private citizens, and any other property owners to make sure that trails are accurately identified and that signs are correct before any major installation occurs in order to avoid errors in trail markings. An analysis of trail maps and property owners conducted by the county would begin to address the issue.

Stakeholders

First Responders and Law Enforcement

California offers grants through the State Parks' Off-Highway Motor Vehicle Recreation (OHMVR) department. The Nevada County Sheriff's Office has applied again during the 2012/2013 grant cycle after receiving grants for the past two years. As part of the grant funding, the Sheriff's Office has patrolled high use OHV areas and has

compiled numbers connected to enforcement. In 2011, Deputies patrolled for 1,074 hours and made 1,436 OHV contacts. They also issued 100 warnings and five citations. Two subjects were arrested for DUI and one for an arrest warrant. In 2012, 835 hours were spent patrolling. There were 768 OHV contacts, thirty-eight warnings, four citations, and four arrests. The increased patrols seem to reduce illegal OHV use according to the grant renewal. The Sheriff's Office continues to have the goal of enforcing regulations while promoting safe and responsible OHV use and works in conjunction with the USFS, BLM, and State Parks. During the summer months, the Sheriff's Office contracts with the USFS to provide additional law enforcement coverage on USFS lands in Nevada County.

OHV Groups (Friends of Greenhorn,
California Association of 4 Wheel
Drive Clubs, Inc., and Nevada
County Woods Riders).

The Friends of Greenhorn group formed in 2007 in response to the potential closure of BLM lands in the area. Since then, they have been involved in clean-ups and in promoting responsible use. As noted above, the group has been inactive since the March 2010 announcement that the Greenhorn OHV open area would be closed once the Tahoe National Forest Travel Management Plan is announced.

The California Association of 4 Wheel Drive Clubs, Inc. started as a non-profit in 1959 and has expanded to include over 8,000 members and 160 member clubs. Their office is in Sacramento, but because the organization sponsors the Winter Fun Festival, it is one group to consider when collecting input. It is also active in conservation projects and may provide volunteer support if needed.

The Nevada County Woods Riders is a motorcycle club that also promotes responsible use and trail improvement programs in the Tahoe National Forest.

Local Businesses, Especially in Related Industries

The local business associations may have a desire to participate in the process. Lodging and restaurants are the most obviously affected by an increase in tourism, but anything that brings people to the area can benefit the local economy. The Grass Valley Chamber of Commerce and Nevada City Chamber of Commerce should both be contacted and invited to provide input during the process.

Private Landowners

In conjunction with the Sheriff's Office, areas of concern could be identified and private landowners included in the discussion of OHV use. Residents in the Greenhorn Creek and Steephollow Creek areas experience the most trespassing and vandalism, but other pockets of concern may exist and also need to be included. In the vicinity of Greenhorn Creek, there are 54 private landowners whose properties border USFS land and the trail system. Maps in Appendix D display the location of public and private lands, illustrating private parcels near OHV trailheads where landowners might be impacted by OHV use.

Government Officials

If Nevada County chooses to develop its OHV policy in the General Plan or elsewhere, the Planning Department, Sheriff's Office, and Board of Supervisors should participate in each step. These officials have the knowledge needed as well as the power

to make decisions. It is important to include them “from the ground up” so that they hear all of the input from other stakeholders before making a final decision.

Federal Agencies

The USFS and BLM both have jurisdiction over lands used for OHV purposes within Nevada County. Any policies developed in the county will need to be aligned with their agency’s plans. The USFS has not released its Travel Management Plan for the Tahoe National Forest.

Safety Concerns

Due to the rural nature of the county, many youth in the community have the opportunity to participate in OHV activities. Motorcycles are a popular form of OHV use for minors, although ATVs are also used. These numbers are difficult to track because there are not organized groups for teenagers; instead, most of the recreation takes place as a form of family recreation or with parental approval.

Nevada County could help minimize injuries of residents by making education a priority. Possible responses could be as involved as offering safety courses or as simple as operating a display at the county fair as many other agencies do. It would also be beneficial to look into safety courses offered through the state; the nearest ATV safety training is offered in Oroville. ATV manufacturers also may offer free safety trainings. Providing this information to users would help inform them of their risks and responsibilities. The Sheriff’s Office has already made education a priority through their OHV grant, but support from the County and an organized effort to provide information to OHV users could complement this support.

Conclusion

Nevada County will need to decide how best to pursue a policy for OHV use. Environmental studies show that OHV use causes soil compaction, erosion, and loss of vegetation. Safety is also a major concern, especially for children. In Nevada County, private property owners are concerned about trespassing and the related problems of illegal dumping, irresponsible shooting, and noise. Despite these challenges, if managed well, OHV activity could bring much-needed income to the community and support jobs and businesses.

While the major issues of environmental impact, safety, and economic benefits have been studied in many other areas, there are some considerations specific to Nevada County that will need to be addressed. The precedent of OHV use at Greenhorn Creek, despite its closure, continues to create conflict but it can also be an opportunity to bring people together to discuss OHV use. While not all of the issues require county involvement, the reality is that the local government could provide guidelines and structure for the discussion which would allow all stakeholders to have a voice in the future of OHV use in Nevada County.

CHAPTER VI

SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

Summary

Off-highway vehicle use is a recreational activity that must be closely monitored due to environmental and health concerns. Despite some negative impacts of OHV use on an area, it also can increase revenue and to provide residents and visitors with recreation. Guidelines for OHV use are difficult because land use often includes private landowners, local government, and state and federal agencies. Case law is evolving, and the court system is deciding how to apply existing laws to OHV use.

In California, fifty of fifty-eight counties contain public lands open to OHV use, but only eleven of those counties mention OHV use or a related term within the general plan. Four counties reference OHV use in a descriptive manner and seven counties have policies within their general plan that are related to planning.

The preliminary staff report for the Planning Department in Nevada County provides a starting point for the discussion of how to define clearer OHV policies. The summary of background information, policies, and legal challenges provides an overview of the issue of OHV use and allows officials to make informed decisions about the future of OHV use in Nevada County.

Conclusions

Local government policies on OHV use have not kept pace with the number of users in many counties. This lag may occur for a variety of reasons. As previously mentioned, decision-making is complicated when land ownership includes private landowners as well as state and federal agencies. In Nevada County, 54 private landowners are directly affected in areas where Forest Service trails used for OHV purposes intersect their land. Local governments do not have jurisdiction over federal land as decided in *The Wilderness Society v. Kane County*. They are even limited in creating new ordinances because those regulations are preempted by state law. In many ways, local governments may not see OHV use as their concern because federal agencies such as the USFS and the BLM have already developed policies on OHV recreation.

Local control over OHV policies can be beneficial in regulating environmental and health concerns, providing recreational opportunities, and increasing revenue for the county. As many counties in California are updating their general plans, the revised versions may include changes to OHV policy. Colusa County, for example, included eleven references to OHV use in its new General Plan while its former plan had no mention of OHV activities. Regardless of the policies developed, a discussion between stakeholders and government (county and otherwise) officials is an important step in addressing OHV concerns and benefits within each county. This process should be undertaken in a proactive way by including the groups identified in the preliminary staff report. From the perspective of Nevada County government officials, previous meetings were contentious and people “came out of the woodwork” (Foss 2013). Rather than be

taken by surprise, the government needs to invite all stakeholders to participate in the decision-making.

Recommendations

If Nevada County chooses to proceed with OHV policies as the General Plan evolves, further action will need to be taken in order to tackle all of the related issues.

The following is a list of items for officials to consider:

- Research the environmental impact of OHV use in conjunction with other agencies on legal areas such as Prosser Hill OHV area and on authorized USFS trails, as well as in illegal areas such as Greenhorn Creek. The study should focus on wildlife and plant communities, water quality, and noise.
- Pursue restoration of areas affected by OHV use as cost allows; mobilize volunteer organizations to conduct restoration if appropriate.
- Conduct a survey of OHV users to determine their average spending on OHV-related activities in one year. Examine the financial impact that increased OHV use may have on the tax base in the community (gas stations, automotive services, hospitality industry, retailers, etc.).
- Compile statistics from hospital records and law enforcement of OHV-related injuries in the county, including time required of first-responders and law enforcement.
- Begin a dialogue with stakeholders including private landowners, OHV groups such as Friends of Greenhorn, environmental groups, retailers, and private citizens who may have an interest in OHV use.

- Establish an educational program within the community for safe OHV use similar to those in other areas.

- Create a mappable database of all trail systems with up-to-date parcel information

It would benefit Nevada County to have county officials create a more detailed vision for OHV use within the county. The vague policy does not help remedy controversy between OHV users and private citizens. If OHV use continues to increase as it has since the 1970s, it is a responsible choice to make informed decisions about its impacts.

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APPENDIX A

PRELIMINARY STAFF REPORT FOR PLANNING DIRECTOR OF
NEVADA COUNTY

2 February 2013

To: Mr. Brian Foss, Planning Director of Nevada County
Eric Rood Administrative Center
950 Maidu Avenue
Nevada City, CA 95959

Subject: Off-highway vehicle use in Nevada County

Preliminary staff report submitted by Philip Salter

BACKGROUND

Off-highway vehicle (OHV) use is prevalent in Nevada County. Historically, the area lends itself to this type of activity due to the rural atmosphere and the vast tracts of federal and state land within the County's boundaries. Areas that were once used for mining and logging prove to be desirable locations for OHV activities. Much of the OHV recreation occurs on Forest Service land. The Nevada County Sheriff's Office applied for and received a grant from the State of California to monitor approximately 508 square miles in Western Nevada County, including 267 square miles of public lands.

In the eastern part of the county, legal OHV use occurs in the Tahoe National Forest, particularly at Prosser Hill OHV area, and on BLM lands north and southeast of Nevada City. There are six dedicated OHV/OSV trailheads and staging areas in eastern Nevada County. These are located at Bear Valley, Indian Springs, Rattlesnake Mountain, Meadow Lake, Prosser Hills, and Little Truckee Summit. In addition to the Prosser Hill OHV area, there is one high use OHV area at Boca Reservoir.

Western Nevada County has one OHV trailhead at Chalk Bluff and six high use OHV areas including Greenhorn Creek, Steephollow Creek, Jackass Flats, Deadman's Flat, Auburn Road, and areas in the Town of Washington. These areas are the focus of increased patrols by the Sheriff's Office. One major focus is patrols along Greenhorn Creek and Steephollow Creek where there are problems of trespassing, vandalism, and promiscuous shooting.

The United States Forest Service has closed all trails for the past three years while they undergo an inventory of existing areas. It is important to note that people still use USFS trails for recreation because there is lack of enforcement. The Forest Service estimates that OHV use has increased nationally by 600% in the past three decades, and the use continues to rise. On one hand, visitors from throughout the state bring welcomed revenue into the county, yet it also creates hostility because of potential environmental damage including soil erosion and noise pollution. Legal challenges have attempted to define appropriate use and to set guidelines, but each case is unique to the area in which it was filed. The USFS will be releasing a new motorized vehicle master trail map this year that may cause more legal issues. The Forest Service failed to ascertain many of the proper road easements in their trail networks, thus cutting off access. This will cause more illegal use on USFS property as users trespass across private land to get to the established trails.

OHV groups are well-organized in the county. Each January, the California Association of 4 Wheel Drive Clubs, Inc. sponsors the Winter Fun Fest. OHV enthusiasts register at the Nevada County Fairgrounds, and groups then depart for a variety of trails throughout the county. This year, organizers expected over 600 participants. The event is so large that the Sheriff's Office increases their presence over Martin Luther King, Jr. weekend to monitor the increased number of OHV users. Other local groups include Friends of Greenhorn and Nevada County Woods Riders. These three groups are involved in pursuing OHV users' rights and responsible use.

Nevada County does not have specific policy addressing OHV use. Policy 6.7 in the Open Space element of the General Plan states: "Nevada County encourages the location and development of motorized off-road facilities on lands where such use can be accommodated. The location and development of such facilities shall include consultation with the State Department of Fish and Game as well as other responsible agencies." While the policy recognizes that Nevada County experiences a high level of OHV use, there are not details about how to encourage development or where that land might be accommodated. As OHV activity continues to increase in popularity, it may be the appropriate time to create policy to help regulate illegal use as well as legal use that has the potential to benefit the community.

ENVIRONMENTAL CONCERNS

Many studies of OHV use focus on environmental concerns and possible damage that may occur. Issues with soil and water quality are two major concerns.

When off-highway vehicles travel on undeveloped trails, the soil crust is broken down and the soil becomes more compact. There are two major issues that develop from this. First, the crust normally acts as a protective barrier and helps control water absorption while also preventing erosion. Next, soil compaction changes the makeup of the soil. It can prevent water from being able to penetrate, leading to increased erosion as the water runs off of the topsoil instead of being absorbed. It can also prevent vegetation

from healthy growth. Any changes in vegetation may potentially lead to changes in animal life, as well.

Soil compaction and the creation of deep tracks are more of a concern during wet seasons or around wet soil. Tracks from off-highway vehicles formed when the ground is wet take longer to undo – sometimes years. During the winter, Nevada County can experience significant precipitation levels as well as high OHV use. Certain trailheads have over-snow vehicle (OSV) use. It may be beneficial to restrict use in certain areas during wet seasons to minimize environmental damage.

Watershed areas are also more vulnerable to OHV use, both because of the soil compaction and because any spills or pollution spreads more quickly when it enters water. High use areas in Nevada County include Greenhorn Creek, Steephollow Creek, Boca Reservoir, and Indian Springs. All of these areas are near water. The Sheriff's Office is working on educating OHV users, focusing mainly on safety regulations and registration, and it would be beneficial to include responsible use in terms of the environment in the information.

Water quality is affected by sediment and by pollution. When soil compaction creates increased erosion, sediment enters the water. This can impact aquatic life forms. Increasing levels of silt interfere with breathing and feeding of such life forms. Spills, such as those from collisions, also introduce harmful substances into the waterways. Exhaust fumes leave behind chemical compounds that can build up to potentially hazardous levels.

As the question of how to encourage the location and development of off-road facilities is answered by the County, it will be important to focus on areas away from watersheds where damage to the environment can be minimized with careful planning.

RESTORATION TECHNIQUES

There are a number of techniques that can be used to restore areas that have been negatively impacted by OHV use. When implemented appropriately, these restoration techniques can offset responsible OHV use and can allow it to continue to occur with less impact on the environment. Four major areas of focus are soil, vegetation, waterways, and trail designations.

Soil restoration

Since OHV use causes soil compaction, the health of the soil needs to be restored in damaged areas. In response to soil compaction, people can work to undo the process through soil decompaction. Hand tools such as soil spades and shovels are used to loosen the top two to six inches of soil. When minimal illegal OHV use has occurred in an area, perhaps limited to only a few passes by a vehicle, raking may be able to correct the damage to the topsoil before compaction becomes a significant problem.

Vegetation

Health of vegetation is affected by the soil, so more soil-centered techniques are common solutions. Soil pitting is a process that directs water flow into “bowls” that have been created on the ground. The bowls collect water and help to increase seed germination and plant growth. Soil imprinting uses a process of raking trenches into the surface soil. Seeds collect on the rougher texture and are able to sprout.

Waterways monitoring and restoration

Since OHV use leads to soil erosion which can affect drainage and watercourses, restoration also focuses on repairing and protecting those vulnerable areas. In Sam Houston National Forest in Texas, trail riders groups joined with the USFS to contribute thousands of hours on trail maintenance. Needs related to waterways included restoration and installation of better water control structures, replacement of wooden bridges, replacement of culverts, development of a wet weather management plan to better manage trails after significant rainfall, and removal of low water stream crossings, conventional culverts and bridges with piers in order to return streams to a more natural state.

Fiberglass reinforced polymer bridges can replace existing wooden bridges. These bridges have a longer service life, and removes piers from the watercourse, providing an unobstructed migration pathway for native species.

Arched culverts can also replace round metal culverts in stream crossings. The arched culverts are plastic, recycled from polyethylene. The arched culverts are open on the bottom and allow for migration of fish, insects, and amphibians through the stream. They also do not change the water flow of areas at intake and outtake points, reducing soil erosion. Their shape also makes them less likely to wash out.

These simple changes to the watercourses created a healthier environment in which OHV use can responsibly occur. By minimizing soil erosion and obstructions within streams, the environment is returned to more of its natural state.

Trail designation

One of the simplest approaches to supporting the health of OHV areas is clearly designating trails. By keeping OHV use on specified trails, illegal use and damage is minimized. The 2005 rule from the USFS requires each national forest to designate roads, trails, and areas open to motor vehicle use. Although the Tahoe National Forest Travel Management Plan is not yet complete, it will be forthcoming.

Once trails are designated, signs and barriers encourage use of legal areas. Barriers may also be a solution for closed areas such as Greenhorn Creek. Approaches include the placement of large rocks and rice bales. Fencing may also be used, but this creates a soil disturbance, unlike the other two solutions. Vertical mulching is another possibility; this process places dead plant material at the beginning of unauthorized trails, disguising the trails and discouraging OHV users from entering them.

Clear signs are also necessary to support trail designations. If there are not enough signs in an area, or if their message is unclear, responsible OHV riders may unintentionally cross into unauthorized areas. Smaller signs create less of a soil disturbance as they are installed into the ground. Nevada County would need to

collaborate with the USFS, BLM, private citizens, and any other property owners to make sure that trails are accurately identified and that signs are correct before any major installation occurs.

SAFETY CONCERNS

Major safety concerns related to OHV use involve collisions and use of OHVs by minors.

While Nevada County has legal OHV areas and designated trailheads, it also has a number of illegal OHV areas that cross private lands. Trespassing creates conflicts between OHV users and landowning residents. The state of New Hampshire did a study involving collisions where inattentive, inexperienced, or otherwise impaired drivers died after colliding with trail gates. This could be a concern in popular areas where access is being limited.

Operation of OHVs, especially all-terrain vehicles (ATVs), by minors is another major concern. Statistics on the number of injuries and deaths of minors are startling, and the American Academy of Pediatrics has even become involved by recommending legislation and other safety requirements for children under the age of eighteen. OHV use in Nevada County is often a family activity, and education on these issues will help prevent injuries. The Sheriff's Office recognizes that minors operating ATVs without proper safety certification or supervision is a concern in the county, and they have made it a priority to enforce the existing regulations.

ECONOMIC IMPACT

OHV use in Nevada County has the potential to increase the tax base by increasing income for local businesses. The Winter Fun Festival in January 2013 had an estimated 600 participants. Over the three-day period, these people spend money on lodging, gas, food, groceries, and a number of other areas. Arizona State Parks conducted an extensive study of the economic impact of OHV use in their area and discovered that the activity brought millions of dollars into local counties, totaling over one billion dollars in the state. OHV expenditures have a positive economic multiplier effect; as money comes into the community, it is spent in areas that provide income for residents, leading to additional spending. Nevada County experiences increased numbers of OHV users on holiday weekends, and many come from out-of-state on the Nevada side of the county. If there is a plan in place to encourage the activity, it could help the local economy.

RELEVANT CASE LAW:

A number of court cases are defining appropriate OHV use and regulations. While case law is always changing, the following cases are references that may be helpful when determining an appropriate course of action for the County:

Astenius v. State, 2005.

A woman died in a trail accident after taking an unmarked trail that proved to be too difficult to navigate. Her children sued the State of California, claiming that the trail should have been marked as hazardous. The court ruled that the State was not legally responsible for the fatality under Section 831.4 which provides that a public entity is not responsible for an injury caused by a condition of an unpaved road. Based on this precedent, Nevada County would not be responsible for injuries or deaths occurring in undeveloped areas.

EcoLogic Partners, Inc., v. California Department of Parks and Recreation, 2012.

Changes in trails must go through the California Environmental Quality Act (CEQA). A rider group brought the case to court when the California Department of Parks and Recreation approved a project involving signage and fencing without conducting an environmental impact analysis report. This decision reopened trails that had been closed or scheduled for closing until after a report is completed.

Sierra Club v. California Department of Parks and Recreation, 2012.

The Sierra Club petitioned that the California Department of Parks and Recreation be compelled to amend its General Development Plan for the Oceano Dunes State Vehicular Recreational Area and ban OHV recreational activities on a leased property. The court ruled that an earlier agreement prevented the ban. The decision gave power to the governmental agencies involved rather than to a private group. Historical precedent is taken into consideration when making decisions about land use.

The Wilderness Society v. Kane County

Kane County in Utah replaced BLM signs with their own signs. They were subsequently sued by the Wilderness Society, and the district court ruled that they did not have jurisdiction over federal lands. Kane County had argued that an earlier statute allowed them to make the decision, but the court ruled in favor of the plaintiff. It is important to note that local government cannot make decisions about federal land unless the county is able to first prove its legal right. In Nevada County, the Sheriff's Office has been working closely with federal agencies such as the USFS and the BLM, so there is a history of cooperation rather than conflict.

The Wilderness Society et al. v. U.S. Forest Service et al. 2011.

The main impact of this case is that it changed the "federal defendant" rule. Previously, the rule prevented anyone other than the federal government from intervening in claims under the National Environmental Policy Act. The ruling judge felt that the rule was in conflict with another section, meaning that recreational groups have the right to represent their interests in court cases involving environmental issues as part of the defense. If a case goes to court, all parties involved have the right to representation.

EXISTING POLICIES:

OHV use regulations depend on the area where such use occurs. The USFS has travel management directives available on their website. As previously mentioned, local

trails are closed while they are evaluated. This is an extensive process. While some trail maps are available, Tahoe National Forest has not been completed. However, the maps should be finalized at some point this year. The BLM also has regulations and restrictions, as well as maps, available on their website.

Of the fifty-eight counties in California, only eleven mention “OHV” or a related term within the general plan. Of those, seven have related policies: Colusa, Fresno, Nevada, San Diego, San Luis Obispo, Sierra, and Ventura. Each general plan is unique to the area in which it was written. San Diego, for example, has a number of OHV areas available and has tried to address the conflict between OHV users and residents in residential areas. Many of their policies restrict OHV use. Colusa County’s updated General Plan includes eleven references to OHV use, eight of them policy related. The plan supports development of an OHV park and identification of appropriate OHV areas. Their policies may be a valuable resource if Nevada County chooses to further develop its own within the General Plan.

Los Angeles County developed their Off-Highway Vehicle Park Planning Guidelines in 2011 after eight public meetings. The 140-page document outlines how they will identify, evaluate, and plan for new OHV parks, trails, and staging areas. Due to the thoroughness of project, it is logical that they chose to create a separate document rather than include the policy within the General Plan. This type of approach would require a large investment of time and money to complete effectively.

STAKEHOLDERS FOR CONSIDERATION:

In planning how best to approach OHV policies in Nevada County, it is important to recognize the many stakeholders who should be included in the process:

First responders and law enforcement. The Sheriff’s Office has patrolled high use OHV areas and has statistics related to their grant application. In 2011, Deputies patrolled for 1,074 hours and made 1,436 OHV contacts. They also issued 100 warnings and five citations. Two subjects were arrested for DUI and one for an arrest warrant. In 2012, 835 hours were spent patrolling. There were 768 OHV contacts, 38 warnings, 4 citations, and 4 arrests. The increased patrols seem to be making an impact on illegal OHV use. The Sheriff’s Office continues to have the goal of enforcing regulations while promoting safe and responsible OHV use.

OHV groups (Friends of Greenhorn, California Association of 4 Wheel Drive Clubs, and Nevada County Woods Riders). The Friends of Greenhorn group formed in 2007 in response to the potential closure of BLM lands in the area. Since then, they have been involved in clean-ups and promoting responsible use. The group has been largely inactive since the March 2010 announcement that the Greenhorn OHV open area would be closed once the Tahoe National Forest Travel Management Plan is announced. The California Association of 4 Wheel Drive Clubs started as a non-profit in 1959 and has expanded to include over 8,000 members and 160 member clubs. Their office is based out of Sacramento, but since the organization sponsors the Winter Fun Fest, they are one group

to consider when collecting input. They are also active in conservation projects and may provide volunteer support if needed. The Nevada County Woods Riders is a motorcycle club that also promotes responsible use and trail improvement programs in the Tahoe National Forest.

Local businesses, especially in related industries. The local business associations may have a desire to participate in the process. Lodging and restaurants are the most obviously affected by an increase in tourism, but anything that brings people to the area has the potential to benefit the local economy. The Grass Valley Chamber of Commerce and Nevada City Chamber of Commerce should both be contacted and invited to provide input during the process.

Private landowners. In conjunction with the Sheriff's Office, areas of concern could be identified and private landowners included in the discussion of OHV use. Residents in the Greenhorn Creek and Steephollow Creek areas experience the most issues with trespassing and vandalism, but other pockets of concern may exist and need to be included.

Government officials. If the County chooses to develop its OHV policy in the General Plan, the Planning Department, Sheriff's Office, and Board of Supervisors should participate in each step. These officials have the knowledge needed as well as the power to make decisions. It is important to include them "from the ground up" so that they hear all of the input from other stakeholders before making a final decision.

RECOMMENDED ACTIONS:

Review studies, existing policies in California, the Sheriff's Office OHV grant, and grant closure statistics to determine if pursuing OHV policy is reasonable at this time.

Establish a group of stakeholders to discuss the future of OHV use in the county.

Summarize findings in a more comprehensive staff report to be submitted to the Board of Supervisors for consideration. This should include maps of USFS trails when the information is released. It should also present the findings from discussion with the Sheriff's Office and any other pertinent information.

SUMMARY:

Nevada County's General Plan has only one policy on OHV use and no clear directives for implementing the policy. Illegal use has increased on private and government-owned land in response to recent closures of OHV areas by the USFS. Creating a clear plan for responsible use will benefit the County greatly by reducing the amount of illegal OHV use and monitoring legal use. If managed well, OHV use in Nevada County has the potential to bring welcome revenue to the tax base. This potential benefit must be weighed against any environmental impacts and public concerns. It will be essential to include stakeholders in the decision-making process to best reflect the needs of county residents.

APPENDIX B

TABLES OF RESULTS FOR GENERAL PLANS

Table B-1. Results for General Plans

County	"OHV" or "off-highway vehicle" appearances	Other term (appearances)	Descriptive	Policy-related
Colusa	11	0	3 (land use designation)	8 (prohibit use on nonmotorized trails, support development of OHV park, encourage use, require consideration in forest projects, assist in identifying locations for OHV areas)
Fresno	0	"off-road vehicle" (2); "motorized vehicles" (1)	0	3 (control for erosion, prohibit use on recreational trails)
Mariposa	1	"off-road vehicle" (7); "motorized vehicle" (2); "all terrain vehicle" (1)	11 (description of use in county, identified as noise problem)	0
Napa	2	"off-road vehicle" (5)	7 (frequency and need, existence in county)	0
Nevada	0	"motorized off-road facilities" (1)	0	1 (encourage location and development)
San Diego	1	0	0	1 (all noise goals and policies apply)
San Luis Obispo	5	"off-road vehicle" (1)	1 (list)	5 (discourage use on cultural sites, work to provide solutions for OHV use, work with agencies to prohibit illegal use)
Sierra	6	"off-road vehicles" (3)	2 (contents, travel plan map)	7 (create designated routes plan; minimize user conflicts; evaluate damage, restriction, and rehabilitation; minimize noise; subdivisions)
Solano	0	"off-road vehicle" (6)	6 (difficult to site, location of facility, survey results)	0
Tehama	0	"off-road vehicle" (3)	3 (systems exist)	0
Ventura	0	"other trail user groups" (1)	0	1 (meet needs of users)

Table B-2. Results for San Diego Area Plans

Subregion of San Diego County	Term used	Descriptive	Planning-related
Alpine	"off-road vehicles" (2)		2
Central Mountain	"four-wheel drive vehicles" (2); "off-road vehicles" (1)	2	1
Desert (Borrego Springs)	"off-road vehicle" (4); "off-road recreational vehicle" (2)	4	2
Fallbrook	"motorized vehicles, particularly motorcycles" (1); "off-road vehicle" (1)		2
Jamul Dulzura	"off-road vehicle" (1)		1
Julian	"off-road vehicles" (2)		2
Lakeside	"off-road vehicles" (5)		5
Valle De Oro	"off-road vehicle" (1)		1
Valley Center	"motorized vehicles" (5); "off-road vehicles" (2)		7

Alpine: two planning-related references requiring noise buffering devices and stating that no public recreational ORV use area is designated

Central Mountain: two descriptive references to trail description and one planning-related reference to discouraging development of private ORV parks

Desert (Borrego Springs): four descriptive references to air quality and dust; two planning-related references identifying OHV use as an issue and including it in implementation on p. 65

Fallbrook: two planning-related references prohibiting OHVs from trails and prohibiting public recreational ORV use areas

Jamul Dulzura: one planning-related reference prohibiting use other than in specifically designated areas

Julian: two planning-related references stating strict enforcement of regulations governing ORV use

Lakeside: five planning-related references; set aside specific areas, analyze park areas, encourage private landowners to apply for off-road vehicle park facility

Valle De Oro: one planning-related reference encouraging strict regulation and designating suitable areas

Valley Center: seven planning-related references; prevent intrusion on equestrian trails, buffering devices and enforcement of noise regulations

APPENDIX C

MAPS OF OHV TRAILHEADS IN NEVADA COUNTY

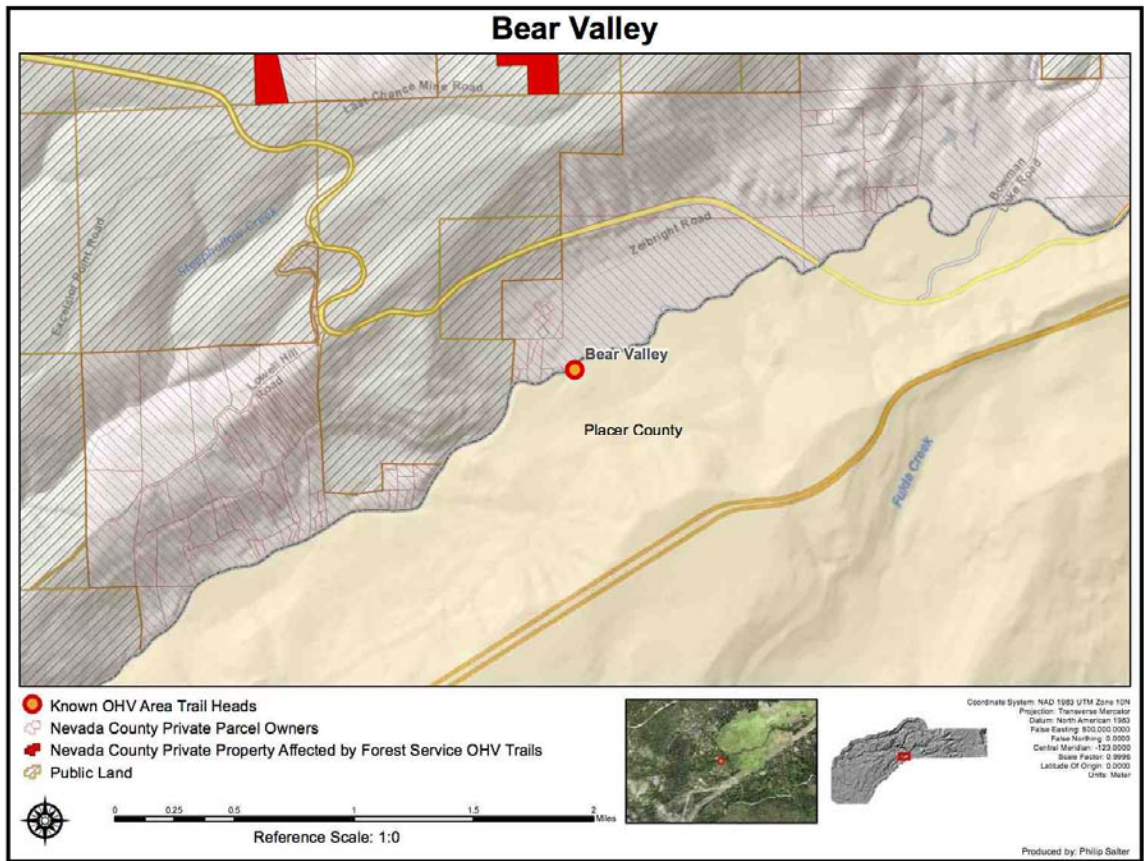


Figure C-1. Map of Bear Valley OHV trailhead.

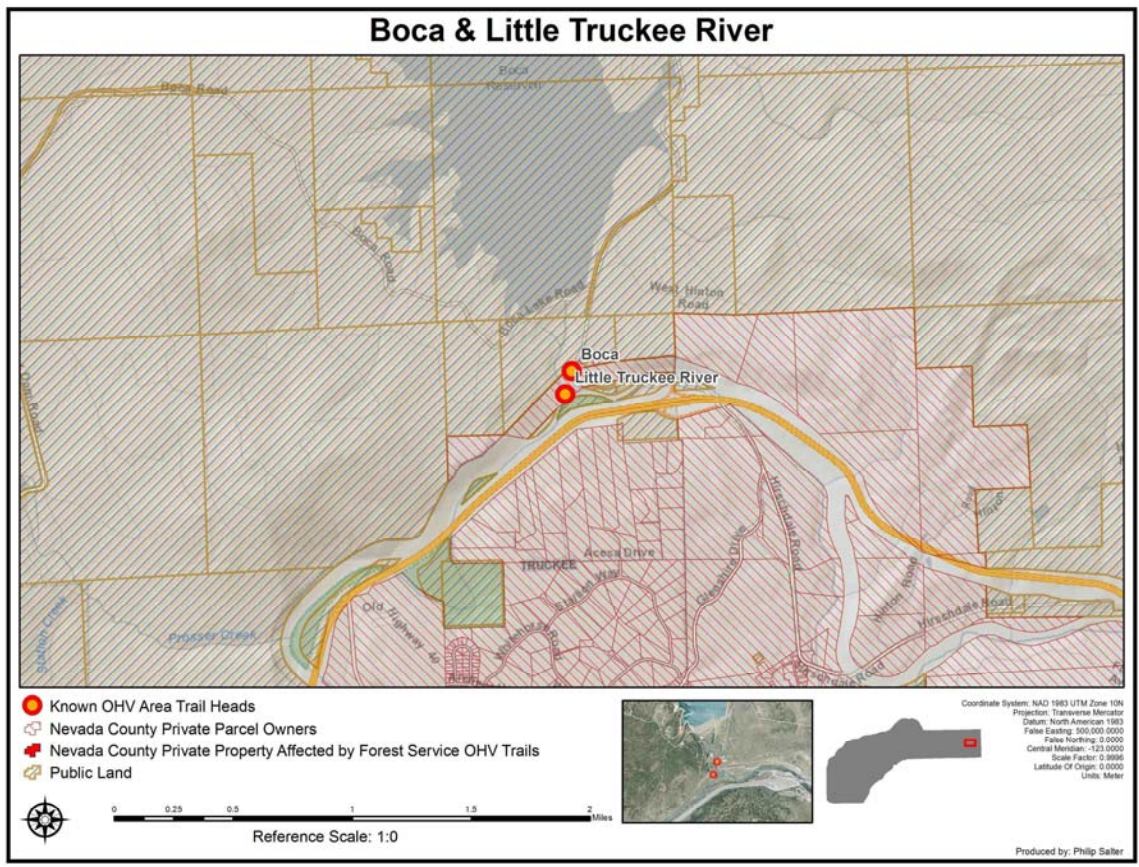


Figure C-2. Map of Boca and Little Truckee River OHV trailheads.

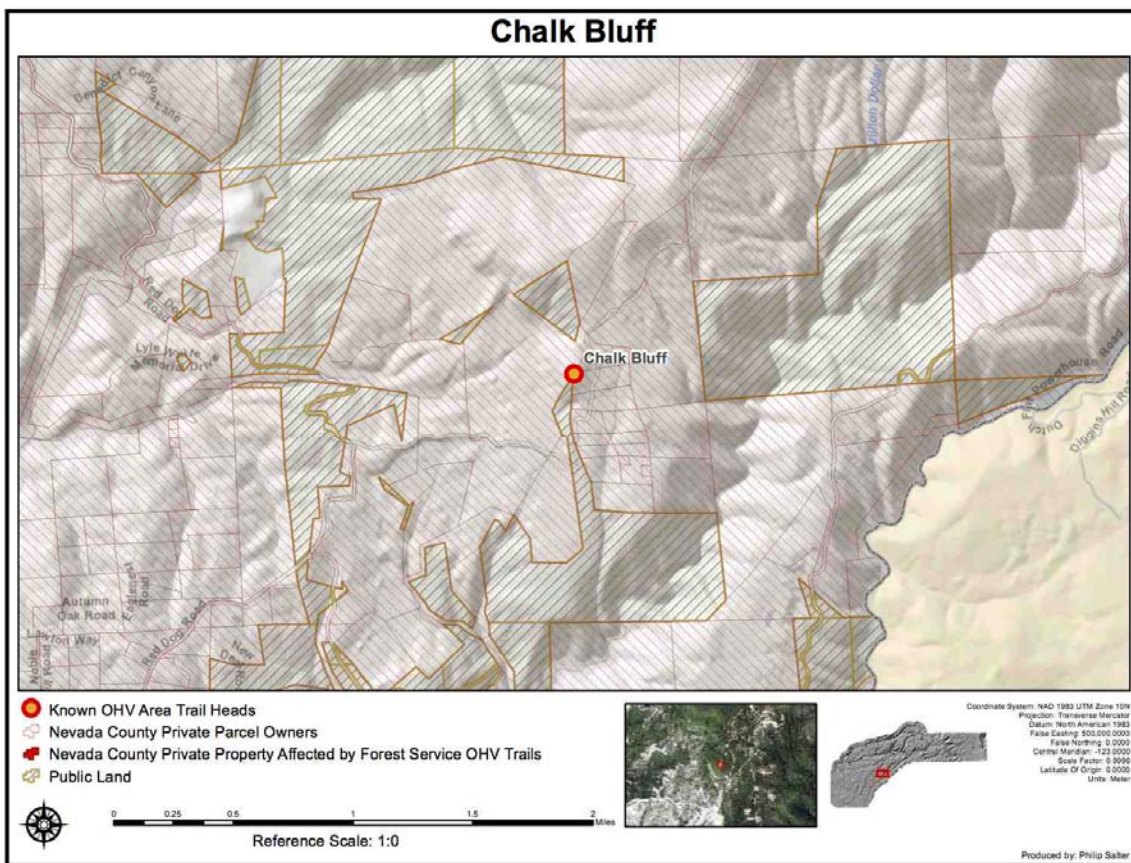


Figure C-3. Map of Chalk Bluff OHV trailhead.

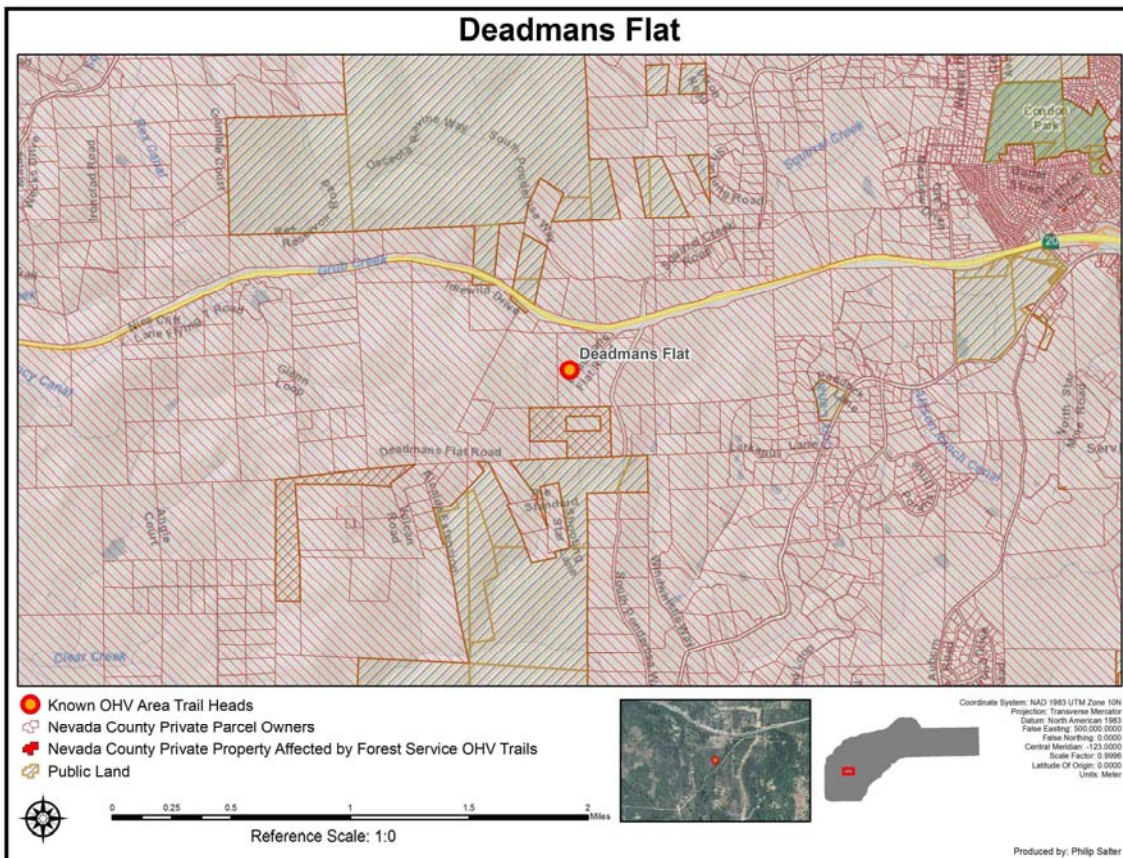


Figure C-4. Map of Deadman's Flat OHV trailhead.

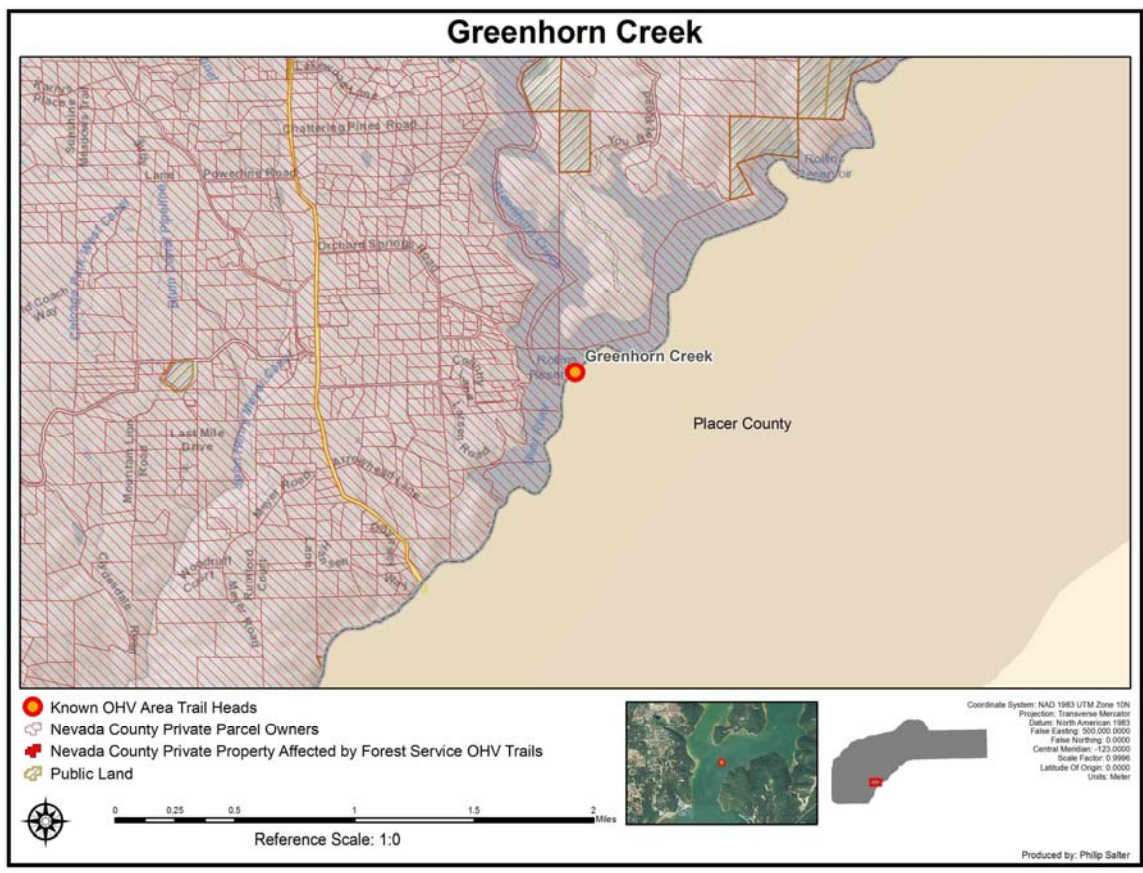


Figure C-5. Map of Greenhorn Creek OHV trailhead.

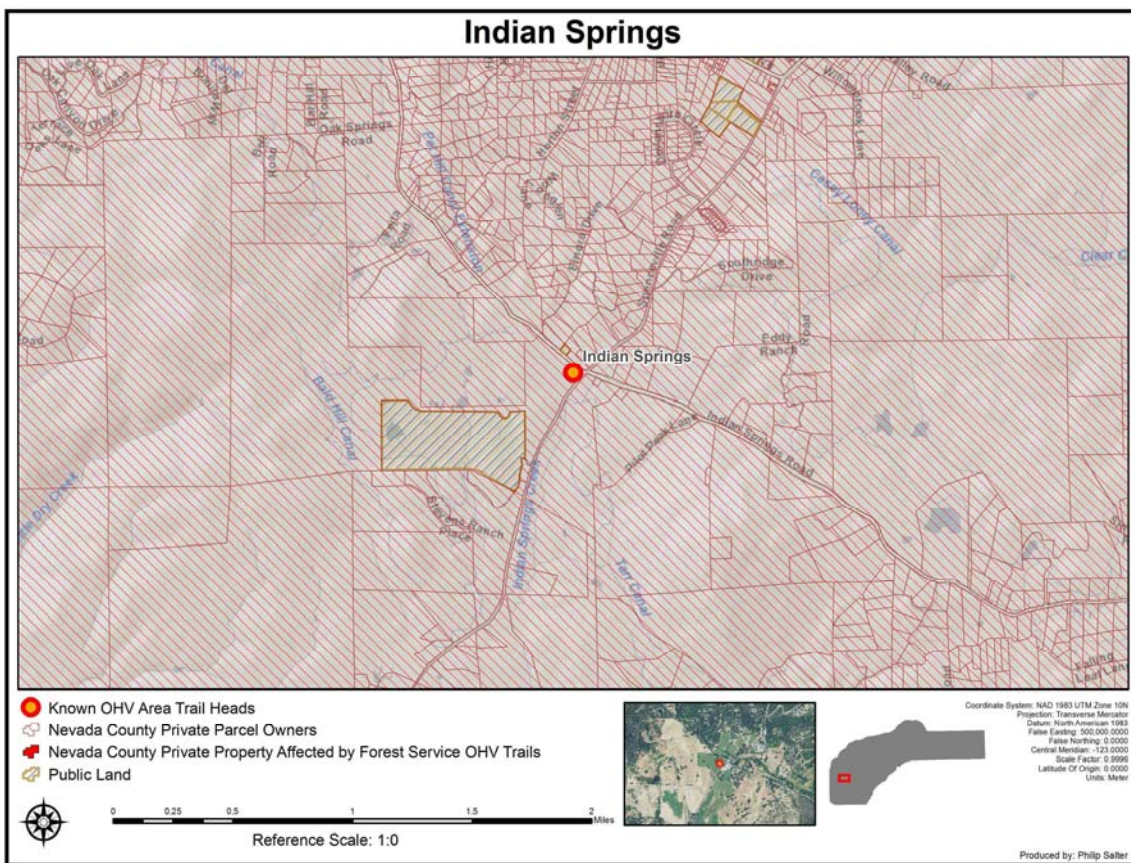


Figure C-6. Map of Indian Springs OHV trailhead.

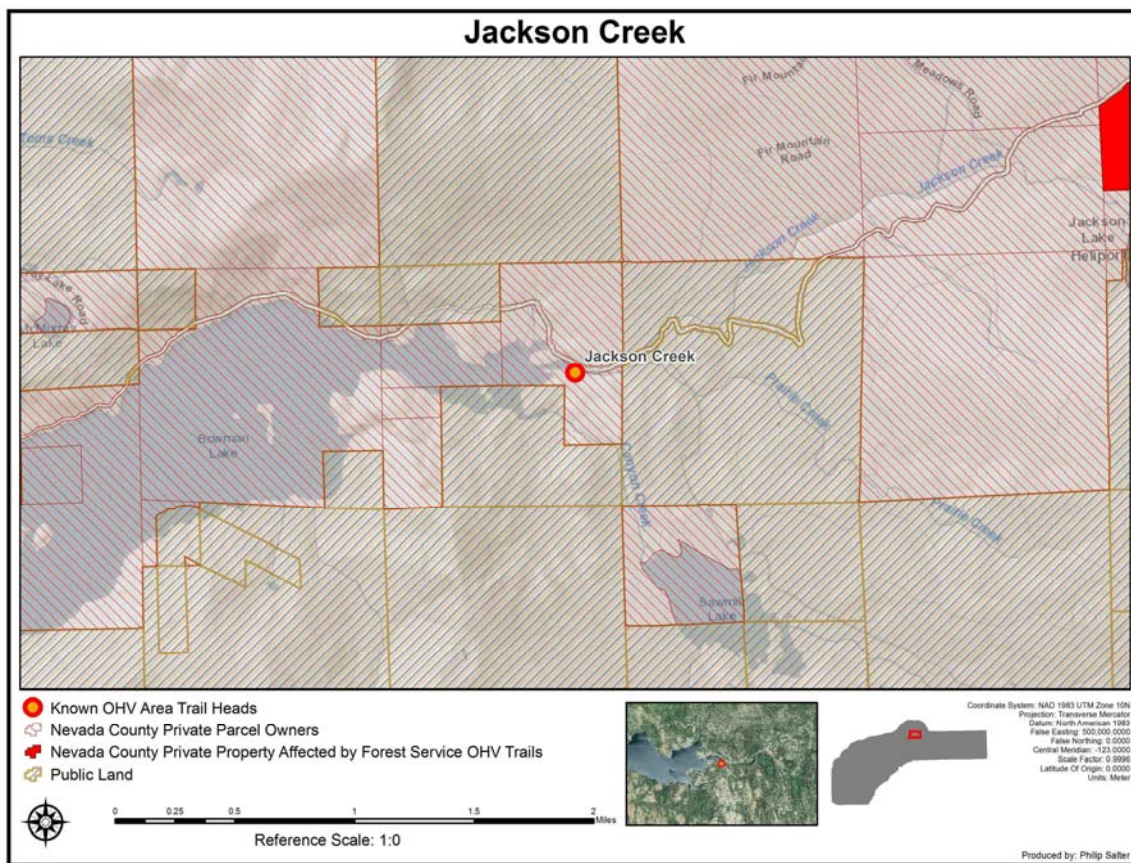


Figure C-7. Map of Jackson Creek OHV trailhead.

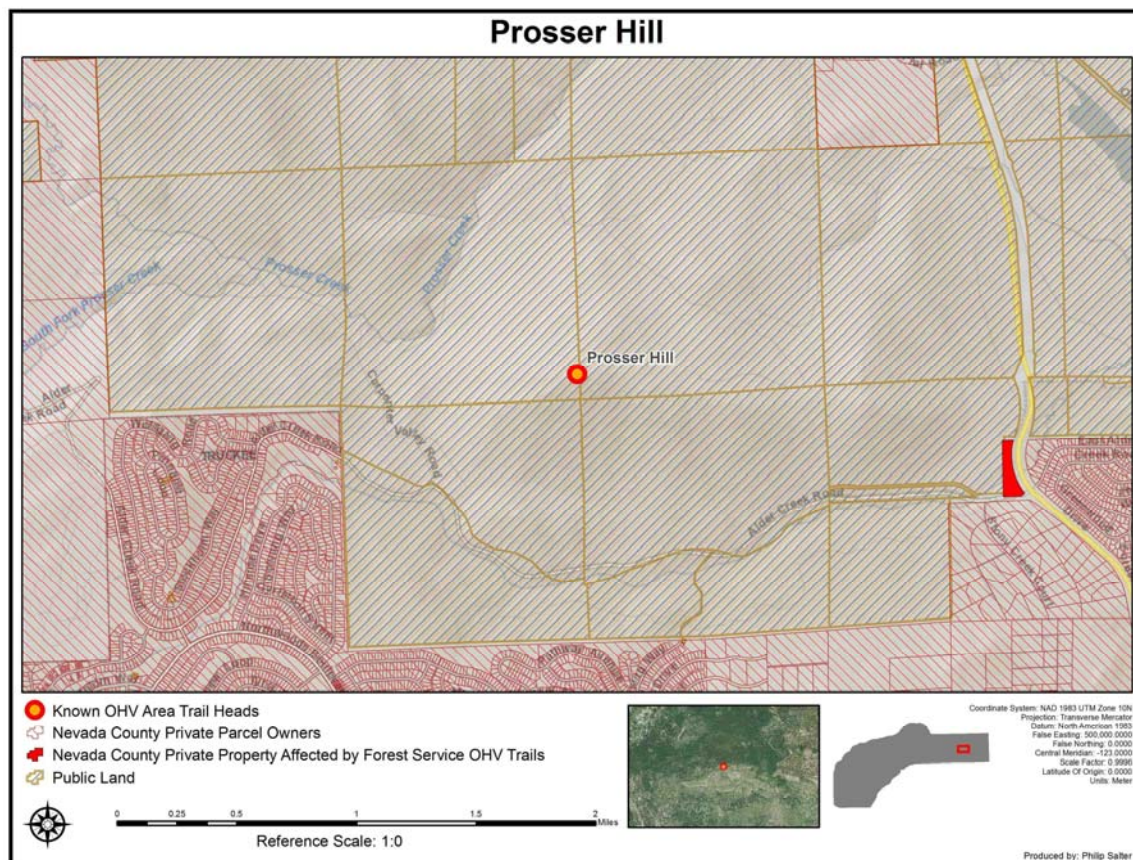


Figure C-9. Map of Prosser Hill OHV trailhead.

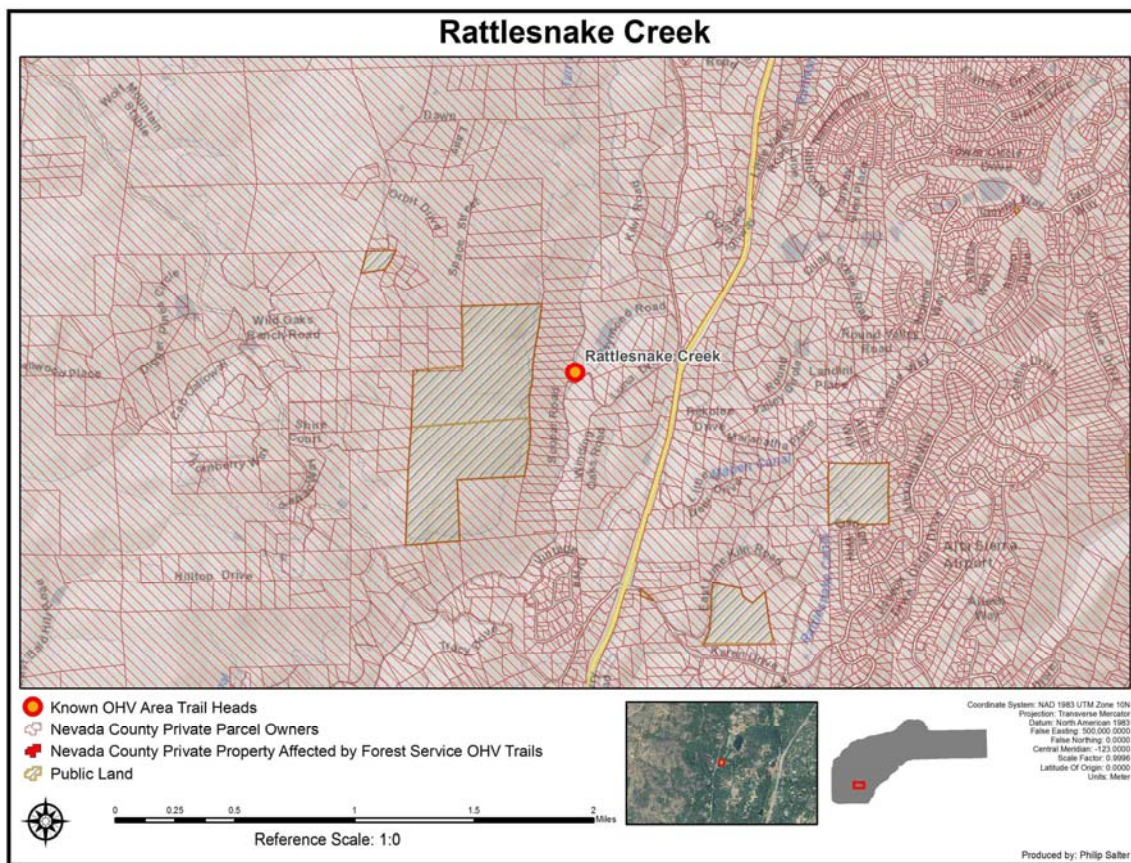


Figure C-10. Map of Rattlesnake Creek OHV trailhead.

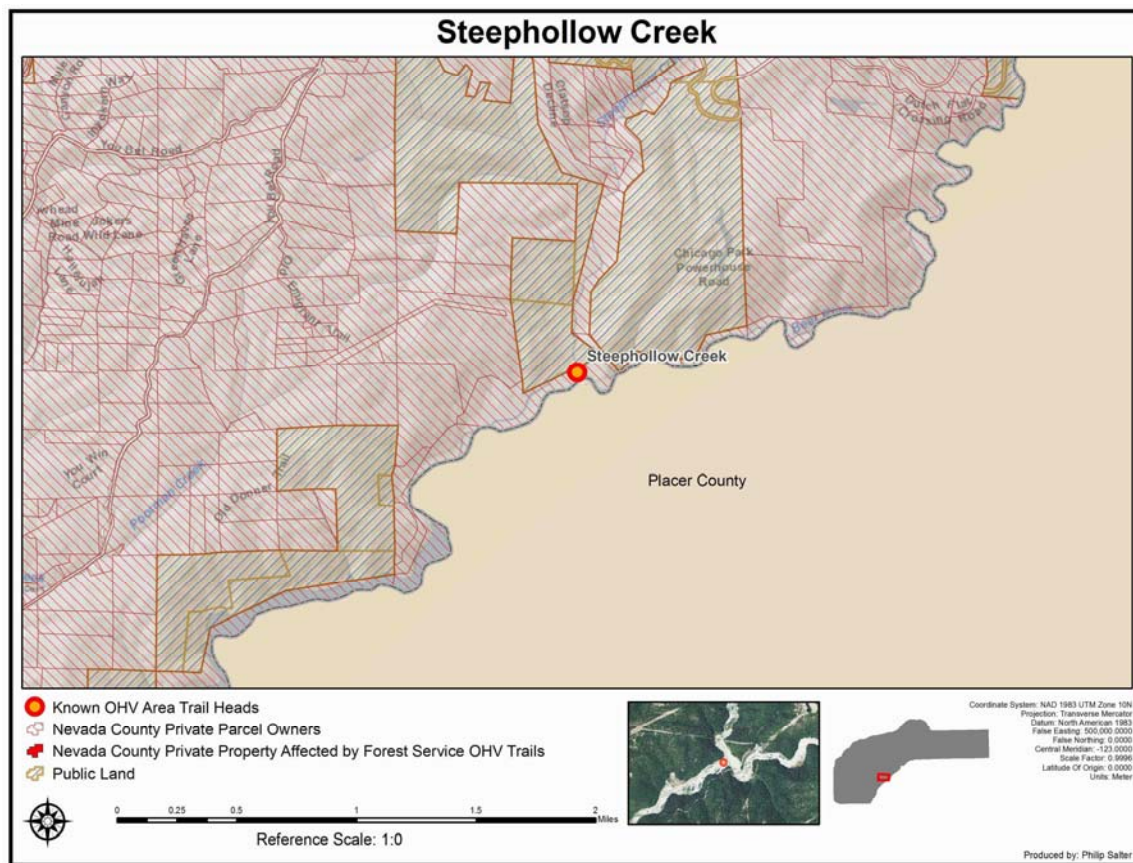


Figure C-11. Map of Steephollow Creek OHV trailhead.

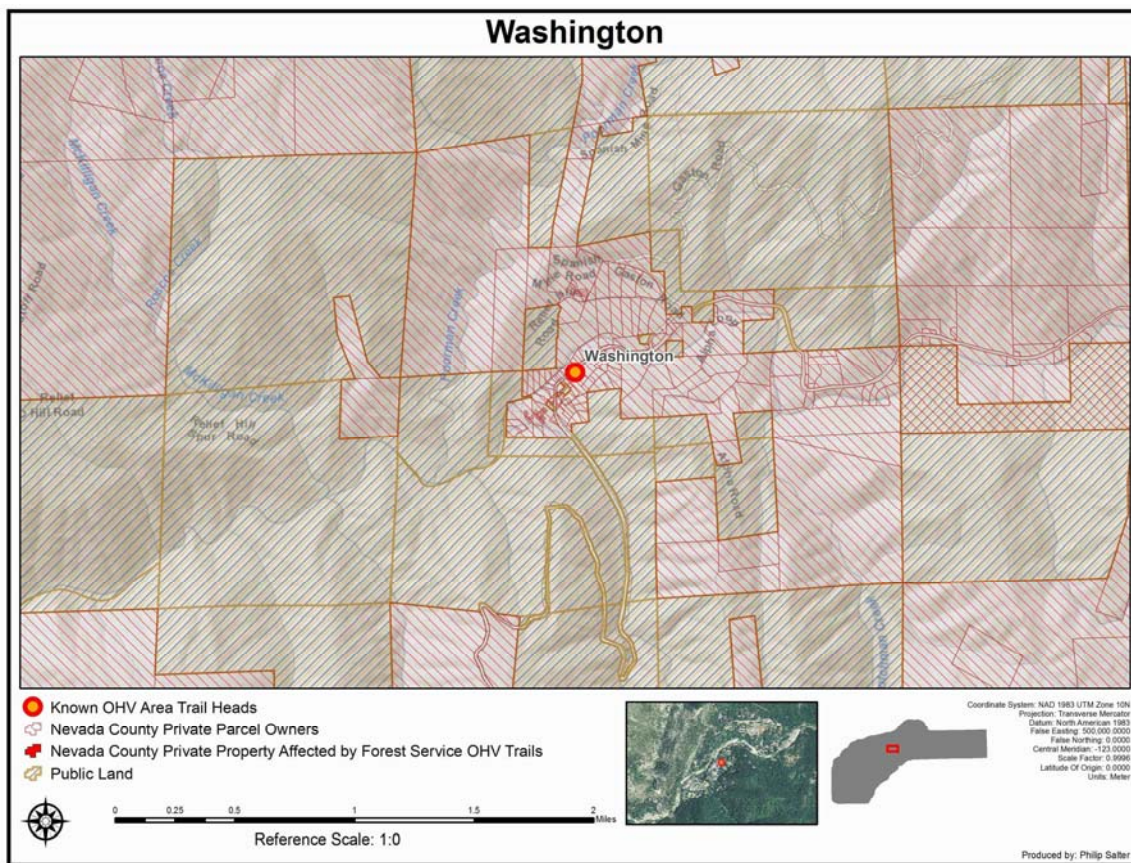


Figure C-12. Map of Washington OHV trailhead.