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COUNTY OF SAN DIEGO

OHV PARK

FEASIBILITY STUDY

County of San Diego OHV Park Feasibility Study

February 2026

This document was funded by a grant from the California State Parks Off-Highway Motor Vehicle Recreation Division.
It was developed with assistance from ICF, Kearns & West, and Highland Economics.

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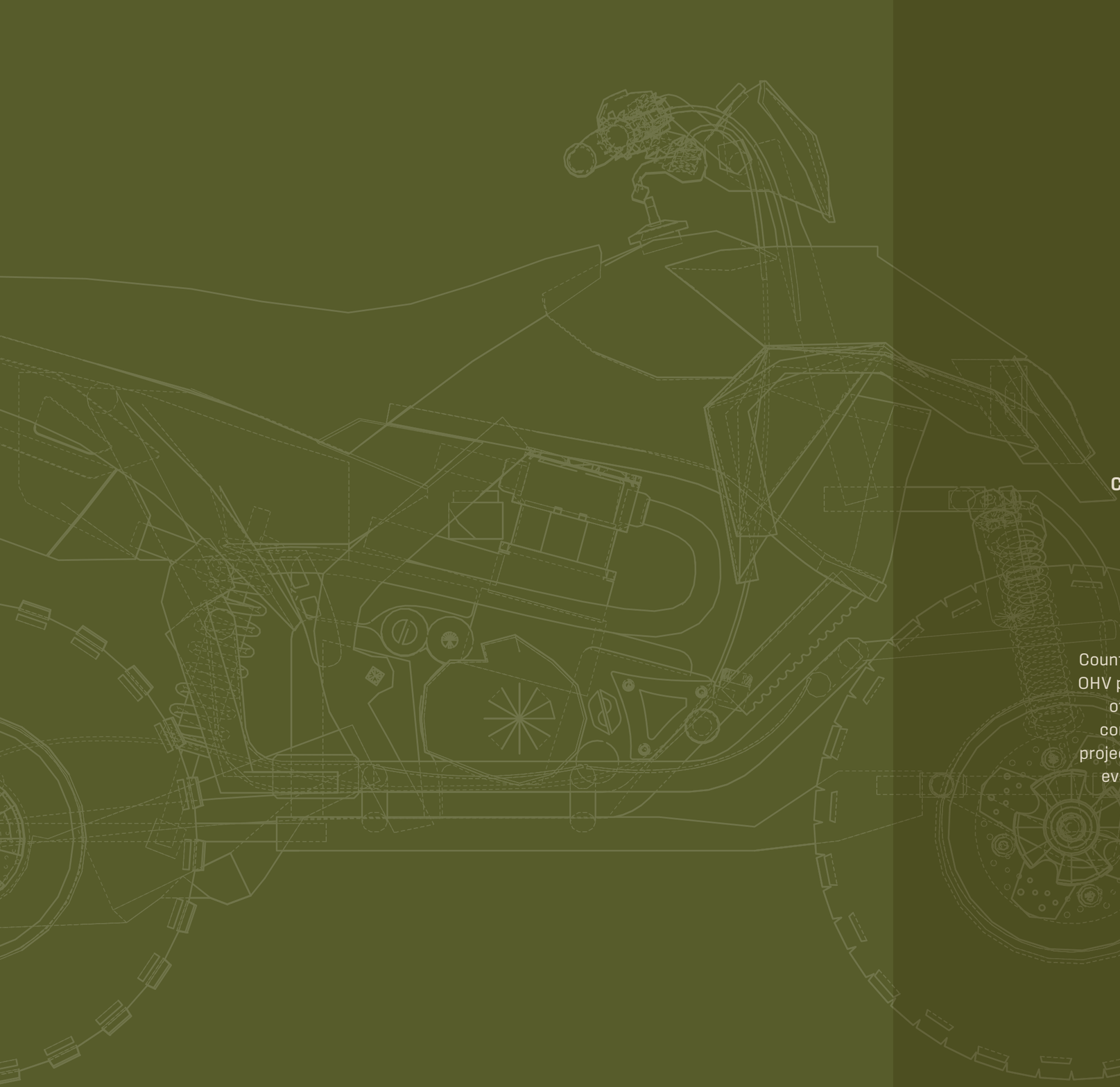

COUNTY OF SAN DIEGO OHV PARK FEASIBILITY STUDY

CHAPTER 1
INTRODUCTION

County of San Diego is exploring the feasibility of establishing a new OHV park to provide access to motorized recreation, meet the needs of a wide range of county residents and visitors, and protect community character along with environmental resources. The project involves extensive public outreach, market analysis, and site evaluation to identify suitable locations and creation of design guidelines and conceptual plans for a potential OHV park.

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1.0 INTRODUCTION

1.1 Project Need and History

Off-highway vehicle (OHV) use is popular in San Diego County (county). While there are several OHV parks in or near the county, their locations require long drives for most OHV users. Visitors to these facilities typically stay for multiple days. The county lacks OHV opportunities closer to major population centers that can be accessed quickly for short day-use activities. When a region lacks authorized OHV riding areas, it is common for OHV use to happen in unauthorized locations, resulting in environmental, noise, and visual impacts, as well as safety concerns. The County of San Diego Department of Parks and Recreation (DPR) has observed a need for more locations for motorized recreation in the county, and a need for updated guidance on where to locate an OHV park.

The County of San Diego DPR has long been interested in creating an OHV park in the county. This document lays out the background, vision, goals, and process for locating and designing that park.

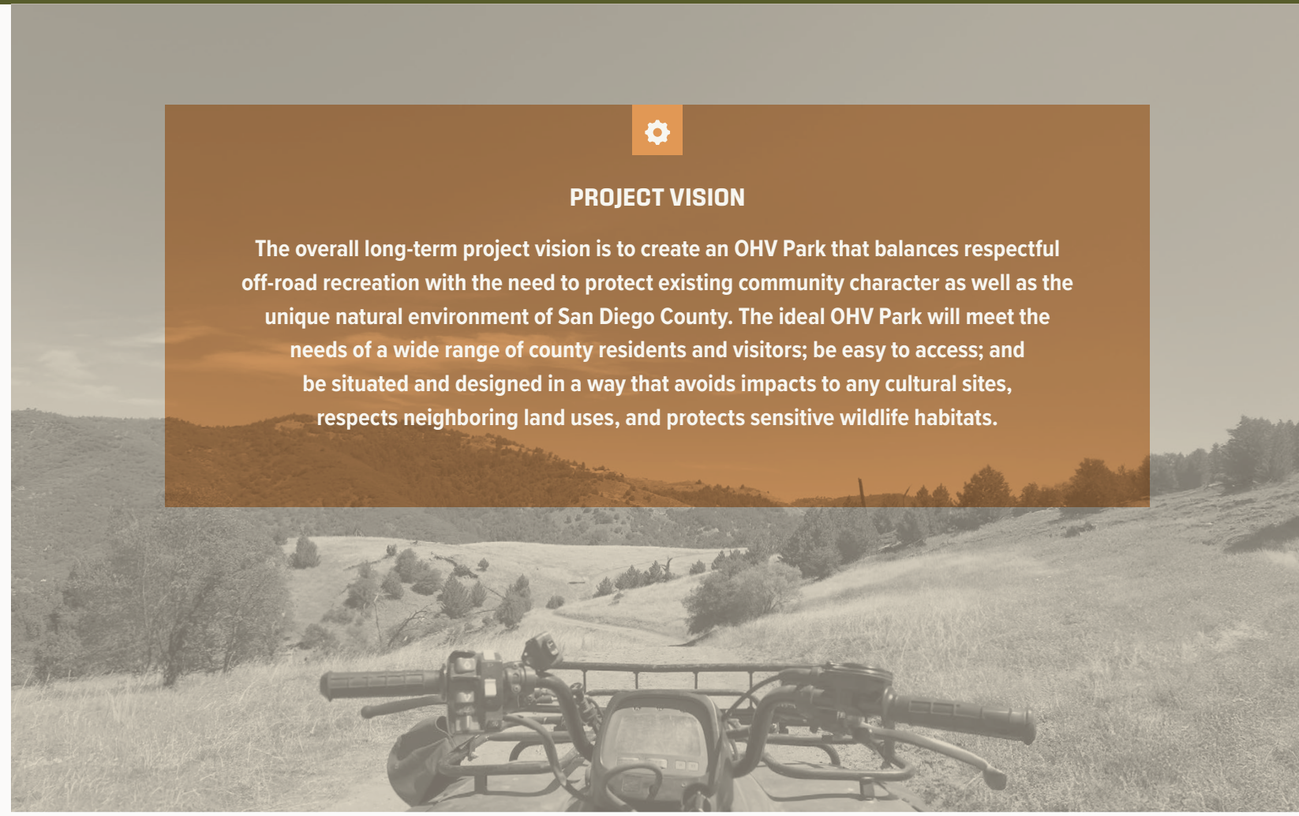
DPR has long been interested in creating an OHV park in the county and has made some past attempts at identifying an OHV park location. These earlier efforts stemmed from a high interest in OHV use within the county, the need to address unauthorized OHV use on public and private lands, and concerns over public safety and protecting natural areas that have been damaged by unsanctioned OHV use. No site was identified for an OHV park through these earlier efforts. Since OHV trails are not included in the *County of San Diego Parks Master Plan* or *Community Trails Master Plan* documents, the County of San Diego Board of Supervisors (BOS) identified the need to conduct activities necessary to site an OHV park in the county.

This document was funded by an Off-Highway Motor Vehicle Recreation Division grant from California State Parks. It lays out the background, vision, goals, and process for locating and designing a new OHV park in the county. It includes market research, a public outreach and engagement process, a systematic analysis of land parcels in the county to identify candidate parcels that fulfill the project goals identified for a new OHV park, and design guidelines and conceptual designs for three hypothetical sites that can be used to develop a site-specific OHV park design once a site has been selected (in a future phase of the project).

1.2 Study Area

The study area for this effort includes all of San Diego County, encompassing approximately 4,300 square miles, with a population of 3.1 million residents. It is the second most populous county in California and the fifth most populous in the United States (SanDiegoCounty.gov 2025), with 15% more OHV registrations per capita than in the state as a whole (**Chapter 3, *Market Analysis***).

OHV Park Feasibility Study Area. *Defined geographically rather than administratively, the Study Area for this feasibility study includes all of San Diego County—both incorporated and unincorporated areas—comprising 4,300 square miles.*



PROJECT VISION

The overall long-term project vision is to create an OHV Park that balances respectful off-road recreation with the need to protect existing community character as well as the unique natural environment of San Diego County. The ideal OHV Park will meet the needs of a wide range of county residents and visitors; be easy to access; and be situated and designed in a way that avoids impacts to any cultural sites, respects neighboring land uses, and protects sensitive wildlife habitats.

1.3 Goals and Objectives

Three main goals guided this feasibility study. These goals and their associated objectives emerged out of an understanding of the policy context for the project, a project survey, and input from the roundtable group and public workshops.

GOAL 1. To meet the recreational needs of a wide variety of county residents and visitors

- By selecting a location that is accessible and convenient for many people
- By including a variety of trail and riding experiences and amenities that accommodate a wide range of users

GOAL 2. To protect sensitive cultural and environmental resources

- Through careful siting and thoughtful design of a new OHV park
- Through promoting education about the environment and responsible riding
- Through ongoing management of resources and enforcement of rules for riding

GOAL 3. To reduce greenhouse gas emissions

- By selecting a location that is close to urban population areas
- By planning for the potential use of electric OHV vehicles and providing electric vehicle charging stations

1.4 Overall Project Process

The BOS authorized DPR to seek grant funding from the California State Parks Off-Highway Motor Vehicle Recreation Division. DPR was awarded a grant to analyze the feasibility of establishing an OHV park. In 2022, DPR hired a consultant team to begin the process of identifying opportunities for land that DPR could obtain for the establishment of its first OHV park. The team conducted public outreach including virtual public workshops, roundtable meetings with key stakeholders, County website updates, and a survey to engage the larger community. These outreach efforts collected input on existing OHV use, desired OHV facilities, environmental and other concerns about OHV use in the county, and suggestions for possible locations of an OHV park. An overview of the outreach efforts is in **Chapter 2, *Community Outreach Process***.

The team also conducted analyses of the demographics of OHV users and the importance of OHVs to the local economy; these market analyses are included as **Chapter 3, *San Diego County OHV Market Analysis***.

The project team conducted a Geographic Information System (GIS) analysis of potentially available park sites, looking at factors such as topography, location, sensitive natural and cultural resources, and adjacent land use to identify candidate sites for an OHV park as part of the Phase 1 Site Selection process. The Phase 1 process identified nine potential sites for further study. The Phase 1 process and its results are presented in **Chapter 4, *Phase 1 Site Selection***. These sites were taken through a more detailed Phase 2 analysis process that looked at biological and cultural resources and site-related economic considerations in more detail to assess site suitability for an OHV park. The Phase 2 process and its results are presented in **Chapter 5, *Phase 2 Site Selection***. The results of the outreach process and DPR's design goals informed development of design guidelines for an OHV park in San Diego County, which are presented in **Chapter 6, *Design Guidelines***.

Through the Phase 1 and 2 processes, DPR recognized that additional studies would be needed to identify a potential OHV park site, and that a partnership with other private or public entities might be the most appropriate scenario for obtaining the land and constructing and maintaining the proposed park. Therefore, the final phase of this project was to develop conceptual plans for three hypothetical sites that combined characteristics of the potential park sites identified through the Phase 2 process. These conceptual plans are presented in **Chapter 7, *Conceptual Park Designs***.

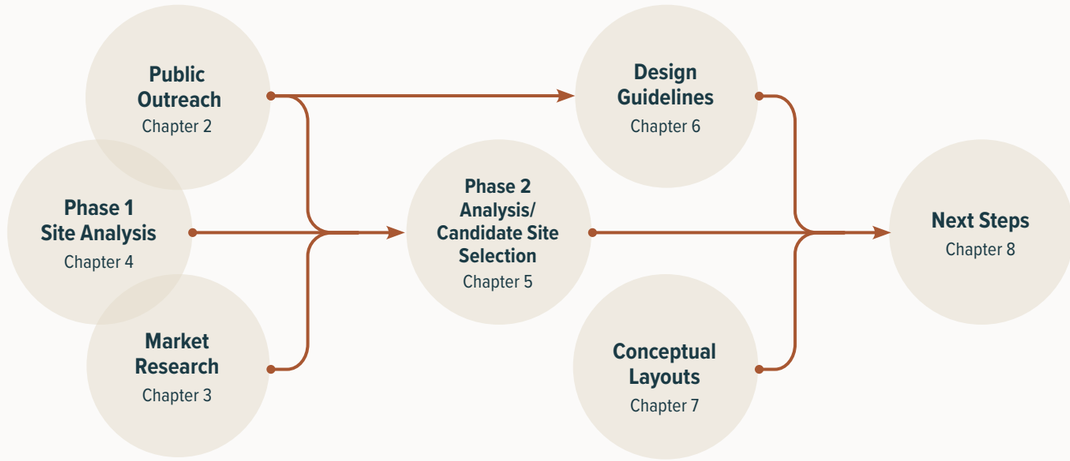


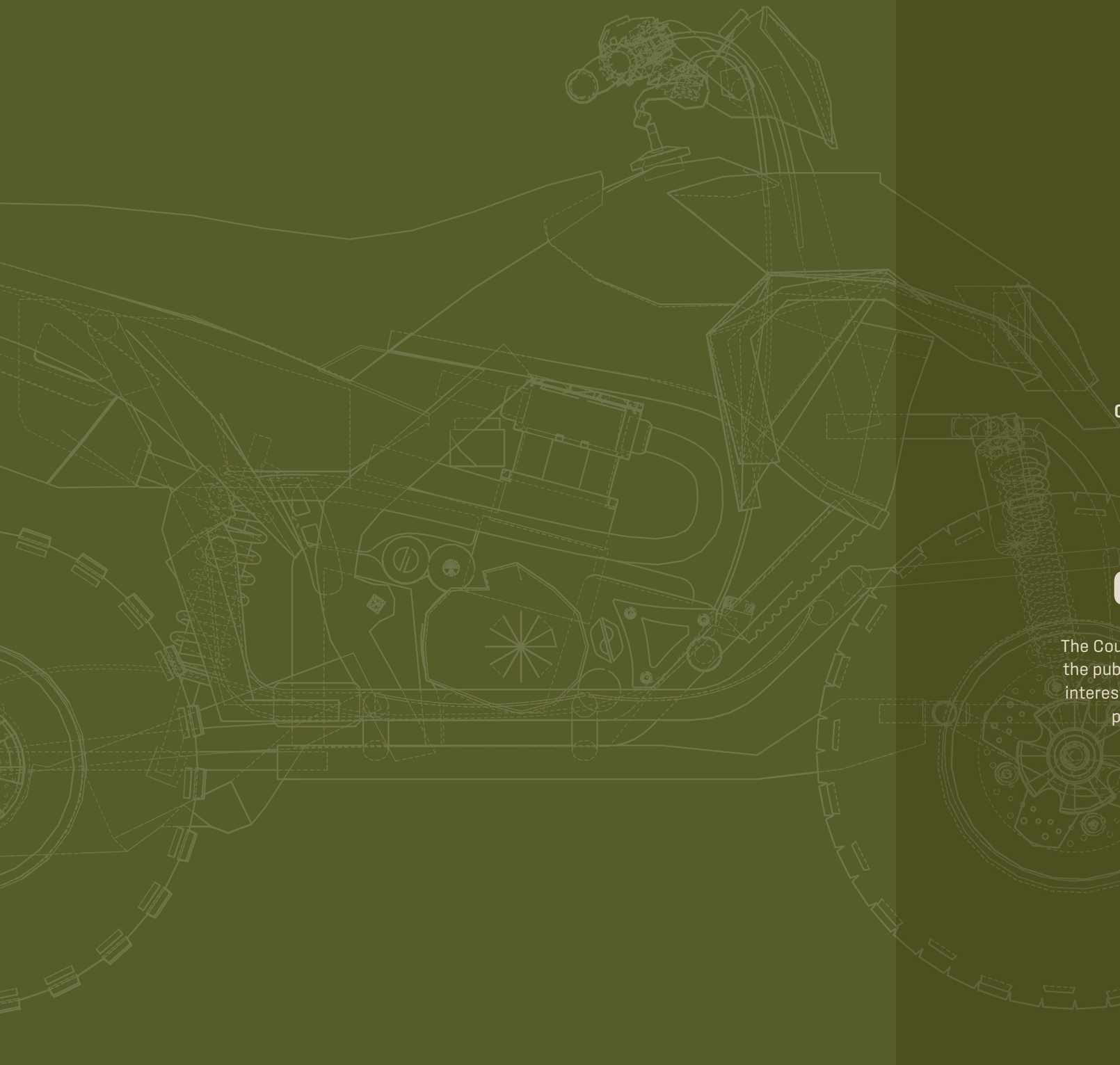
Figure 1-1. Overall Project Process and Document Map

Finally, **Chapter 8, *Next Steps***, outlines next steps for the identification and design of an OHV park site, including potential options for partnerships and conducting additional public outreach, technical studies, and permitting.

This process and corresponding document chapters are shown in **Figure 1-1**.

1.5 References

SanDiegoCounty.gov. 2025. SanDiegoCounty.gov. Accessed March 18, 2025.



COUNTY OF SAN DIEGO OHV PARK FEASIBILITY STUDY

CHAPTER 2
COMMUNITY OUTREACH PROCESS

The County led a comprehensive community outreach initiative to engage the public in the OHV Park Feasibility Study. This process aimed to inform interested parties about the study and gather input on site selection and park design through meetings, surveys, and online materials.

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2.0 COMMUNITY OUTREACH PROCESS

DPR has prioritized stakeholder and community involvement throughout the OHV Park Feasibility Study planning process (**Figure 2-1**).

Purpose: Community outreach was designed to inform the community and stakeholders about the OHV Park Feasibility Study and solicit ideas on site selection criteria to shape potential park site(s).

Process: The community outreach program included a dedicated project website and outreach materials, two roundtable meetings, two public meetings, and a community survey. Outreach aligned with the study's planning and research steps, including data collection, two phases of analysis, and the development of concept plans for three hypothetical OHV park sites. The outreach process included the following steps:

Community outreach for the study was designed to inform the community and stakeholders and solicit ideas on site selection criteria and design.

1. **Launch Project**: Inform the public that the OHV Park Feasibility Study has been launched.
2. **Early Information Collection and Draft Criteria**: Provide information on project purpose, methodology, and role of stakeholder involvement. Solicit feedback on draft criteria for site selection analysis. Gather input on ideas, questions, and resources to consider during the park site study.
3. **Phase 1 Analysis**: Revise the site selection draft criteria, share the results of the Phase 1 analysis, and present potential sites for feedback and discussion to help inform the Phase 2 analysis (Step 4).
4. **Phase 2 Analysis**: Share the Phase 2 analysis results and present the updated potential sites for feedback and discussion. Gather input on desired facilities and design to help inform Steps 5 and 6.
5. **Conceptual Design**: Develop concept designs for three hypothetical sites using input received in prior steps.
6. **Preparation of Feasibility Study**: Prepare a report that includes an overview of the project processes and information gathered, analyses, community outreach process, and conceptual design plans for the three hypothetical park sites.

This report includes information on notifications and informational materials for the study, followed by summaries of the input received during the public outreach process.

2.1 Notifications and Informational Materials

DPR developed a page on its website dedicated to the OHV Park Feasibility Study (https://www.sdparks.org/content/sdparks/en/park-pages/OffHIghwayVehicles.html), to share project updates and information. The webpage includes an OHV fact sheet, project background, Phase 1 and 2 (referred to *Tier 1 &2* on the website) analysis results, public meeting information, and roster of roundtable members. In addition, email notifications were distributed to the community before each public meeting. After each public meeting, the recording and Questions and Answers (Q&A) report were posted to the website.

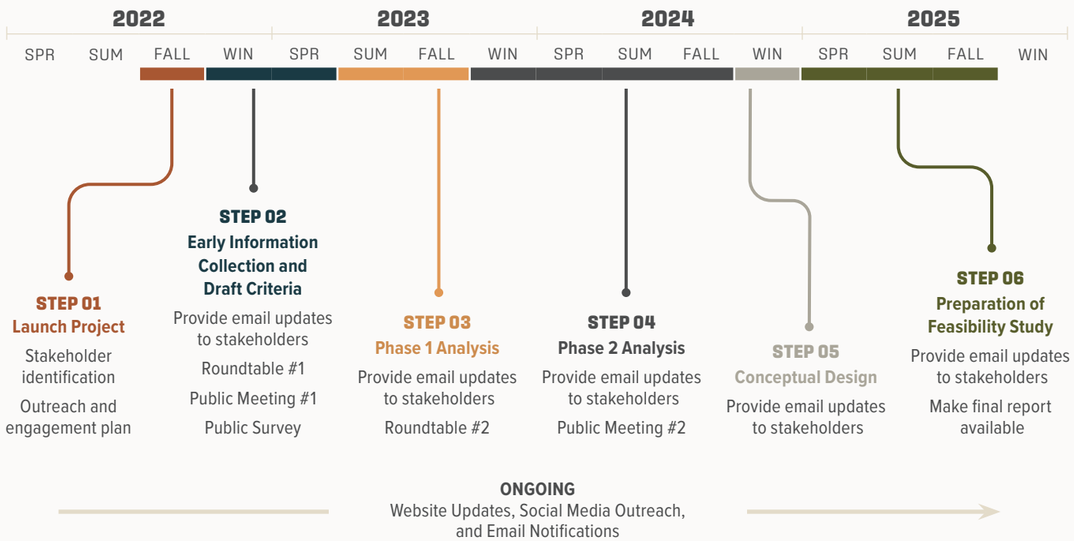

Figure 2-1. Outreach Activities for the OHV Feasibility Study

2.2 Roundtable Meetings

Overview

DPR identified representative stakeholders to participate in two roundtable meetings. These sessions allowed stakeholders to ask questions and share ideas, perspectives, and resources during the study process. Stakeholders from organizations representing OHV enthusiasts; a Tribal government; environmentalists; and fire, rescue, and safety organizations attended both meetings.

The first roundtable meeting was held in a hybrid format on January 31, 2023. The DPR team provided an overview of the BOS directive on the study and shared the project objectives. The project team provided information on the study methodology and market analysis. Most of the meeting focused on the roundtable discussion, soliciting feedback on OHV park site criteria, and asking for recommended resources to support the site analysis.

The second roundtable meeting was held virtually on August 8, 2023. The project team shared the criteria used in the geographic information systems (GIS) Phase 1 analysis to identify potential OHV park sites. The project team reviewed case studies of other OHV parks, amenities, and infrastructure. Following the presentations, the meeting focused on answering questions from the roundtable members and asking for additional criteria to narrow down the proposed sites.

Key Themes

Roundtable meeting participants were given multiple options for providing input depending on whether they joined virtually or in person. Options included notecards, a Miro Board, a chat feature, an open Q&A, and polling questions. Input from the roundtable meetings guided site selection criteria, resource suggestions, and recommendations for narrowing the list of sites during the Phase 1 and 2 analyses. Comments and suggestions from stakeholders are summarized in key themes below.

Fire and Rescue Concerns

- Addressing fire and rescue concerns and accessibility to services to ensure safety and preparedness
- Reducing wildfire risks

Site Location and Accessibility

- Selecting a park site near central San Diego County for convenience
- Ensuring accessibility for shorter afternoon trips (e.g., located off Interstate 8)

Inclusive Park Amenities

- Providing amenities suitable for all ages, including riding areas, bathrooms, playgrounds, and camping facilities
- Studying other successful OHV park sites, such as Prairie City State Vehicular Recreation Area (SVRA) or Mammoth Bar OHV Area outside of Auburn

Off-Highway Vehicle Park Infrastructure

- Developing parallel tracks or paths for different OHV types
- Choosing OHV types based on infrastructure, park size, and topography
- Studying other OHV sites to inform site management, amenities, and park design

Environmental and Safety Considerations

- Incorporating watershed and environmental protections in site selection and development
- Prioritizing park maintenance and safety measures to support long-term operations

2.3 Public Meetings

Overview

DPR hosted two public meetings open to all community members, stakeholders, and the broader public. These meetings provided project information, updates on the study process and site selection criteria, and an opportunity for the public to ask questions and provide input. Both public meetings were conducted virtually to increase accessibility for stakeholders located across the region. The two public meetings provided project information, updates on the study process, and suggestions for consideration when identifying and narrowing down potential park sites.

The first public meeting, hosted on April 13, 2023, introduced the OHV Park Feasibility Study and shared the study objectives with the broader public. The project team provided context on the study methodology, including site selection criteria, case studies, and an economic analysis. It concluded with an opportunity for attendees to ask questions and participate in a polling activity where they could indicate their reason for attending the meeting and preferred OHV types, if applicable. Participants could also respond to a community survey published following the public meeting (see details in the next section).

Following completion of the survey, coordination with the roundtable group, and completion of the Phase 1 site analysis GIS model, the second public meeting was hosted on January 30, 2024. The agenda prioritized sharing results from the spring 2023 community survey, recapping input from the two roundtable meetings, reviewing Phase 1 site analysis results, and introducing the Phase 2 site analysis next steps. It concluded with an opportunity for the public to ask questions. Following the public meeting, a Q&A report was created and posted publicly to the project website.

PUBLIC MEETINGS
2

PUBLIC MEETING ATTENDEES
175+

EMAIL NOTICES SENT
6,129

Key Themes

Public meeting participants provided input through the Zoom Q&A feature and polling questions. Comments and suggestions provided by the public during both meetings are summarized in key themes below.

Prioritize Transparent Stakeholder Coordination

- Communicate and coordinate with the U.S. Fish and Wildlife Service, Bureau of Land Management, and State Parks
- Communicate openly with local Tribal governments and ensure Tribal reservation boundaries are respected
- Incorporate concerns from planning groups, property owners, and local communities regarding transparency and project details
- Share project timeline and provide frequent updates regarding the current planning phase and next steps

Address Environmental Impacts and Fire Concerns

- Preserve environmentally protected areas and ensure the park site is compatible with conservation
- Consider environmental damage, wildlife protection, and wildfire prevention as key concerns
- Ensure an Environmental Impact Report will be conducted

Consider Site Selection Criteria Challenges

- Recognize limited large site areas exist; smaller sites are a good alternative
- Focus on private land acquisition; conserved and public lands excluded
- Release GIS data as a transparency indicator to the community

Create a Multi-Use Off-Highway Vehicle and Recreation Park

- Incorporate multi-path and trail parks for different OHV types (side x side, ATVs, and motorcycles)
- Add camping, playgrounds, and event facilities to the OHV park, open and accessible to all ages
- Integrate fire roads and safety measures
- Create a managed and legal OHV park site to deter illegal OHV riding

2.4 Community Survey

Overview

In addition to the roundtable and public meetings, community members were invited to participate in an online survey from April 13, 2023 to May 1, 2023. The survey was posted on the OHV Park Feasibility Study website and received over 400 responses. Participants provided input on OHV user demographics, vehicle and riding style preferences, park location priorities, programming and amenity preferences, and existing concerns and impacts for consideration.

Key Themes

In addition to multiple-choice questions, the community survey provided two opportunities for open-ended responses. The comments and suggestions shared in those two open-ended questions are summarized in key themes below. The complete community survey results are on the project website.

Community-Focused Off-Highway Vehicle and Multi-Use Recreation Area

- Locate the OHV park near residents to minimize travel and discourage illegal riding in restricted areas
- Provide opportunities for families to enjoy OHV activities together and foster a community
- Promote safety and regulated OHV experiences, especially for younger generations
- Partner with organizations experienced in OHV park management to ensure adequate design, operation, and maintenance

Environmentally Responsible Design

- Prioritize sites that are not currently environmentally protected to minimize additional harm
- Restrict activities to designated trails, avoiding open area riding
- Implement measures to mitigate impacts on local vegetation and wildlife

Balanced Recreation Opportunities

- Design OHV parks that offer amenities to all residents' interests, balancing OHV activities with hiking, biking, and camping
- Incorporate safety measures for all users, such as police patrols or fire and rescue services
- Establish funding resources that are minimally reliant on public funds and offer broad benefits to the community

Environmental Advocacy and Alternative Uses

- Advocate for protecting natural lands
- Limit OHV park developments to regions with existing infrastructure and minimal ecological value, ensuring fair resource use
- Consider addressing noise pollution, air quality, and safety issues by proposing less impactful designs in shared community spaces

2.5 Key Takeaways from Community Outreach

Each outreach activity conducted for this study focused on certain questions that were important to the process. There were, however, several themes that stood out as common messages in the feedback received. Those common themes, illustrated in **Figure 2-2**, inform the location, size, and user-base for the park while also keeping in focus the importance of minimizing environmental impacts and keeping the public involved.

Figure 2-2. Common Themes Emerging from Community Outreach Efforts

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COUNTY OF SAN DIEGO OHV PARK FEASIBILITY STUDY

CHAPTER 3
SAN DIEGO COUNTY OHV MARKET ANALYSIS

OHV recreation demand in San Diego County is characterized by a significant user base with approximately 108,930 total off-highway vehicle registrations as of December 2024, which is about 3.3 registrations per 100 people—9% higher than the state average. Active registrations, which allow year-round or seasonal use, comprise 59% of this total. The majority of registered OHVs (76%) are motorcycles and ATVs. Trends indicate that after strong growth until 2008, registrations have slightly declined but remain stable, reflecting consistent interest in OHV activities. Public engagement with proposed new OHV facilities has been robust, indicating community enthusiasm for expanded opportunities.

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3.0 SAN DIEGO COUNTY OHV MARKET ANALYSIS

The demand for a new OHV recreation site in San Diego County depends on several factors, including:

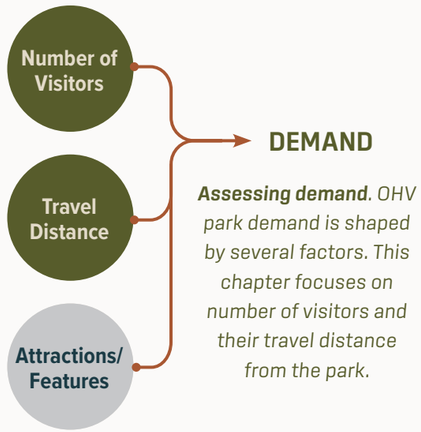
1. The potential number of OHV recreationists who may visit the site,
2. The location of the site and the associated travel distance of the site for potential OHV users, and
3. The attractions/features of the site.

In 2024, approximately 3.3 OHVs per 100 residents were registered in San Diego County—9% higher than the per capita registrations statewide.

This chapter focuses on the first two factors: the potential number of OHV recreationists who may visit the site, and how location may affect the number of users and the frequency of their visits.

Importantly, the analysis revealed that OHV recreation is popular in San Diego County, with approximately 9% more registrations per capita than in the state as a whole. As of December 2024, there were approximately 3.3 OHV registrations made up of 2 active and 1.3 nonactive per 100 people, for a total of approximately 108,930 OHV registrations in the county.

Data on visitation at existing OHV recreation sites in San Diego County is limited; however, at State Vehicular Recreation Areas (SVRAs), day use visitation tends to range from approximately 10,000 to 90,000 visitors annually.



3.1 Market Demand

This section discusses market demand information for OHV sites based on data on the number of OHV users in San Diego County, recreation days per year per OHV user, and the available data on visitation at existing OHV recreation sites.

OHV Registrations and User Characteristics

One of the best data sources regarding OHV participation is the number of OHV vehicles registered with the State of California. The most recent data available from the California Department of Motor Vehicles are from December 2024 and provide information on the types of OHV vehicle registration in the county. As shown in **Table 3-1**, there were 108,930 total (active and inactive) OHV registrations in the county as of December 2024. Active registrations include both red sticker and green sticker registrations. Green sticker OHVs may be driven year-round, while red sticker registrations are for OHVs that are only allowed to be driven October 1 through May 31 due to not meeting emission standards established by the California Air Resources Board. Of these total registrations, 59%, or 64,472 OHV registrations, were active registrations in the county. OHV registrations expire on June 30, and vehicles become inactive if not renewed at that time; these inactive vehicles may be re-registered at any time. The data on the proportion of total registrations that are active at the state level are similar; from 2022 to 2024 (the most recent years for which statewide data were available for this analysis), 56 to 59% of total statewide OHV registrations were active.

OHV Category	San Diego County	
	Registrations	Proportion of Total San Diego County Registrations
Motorcycle	37,908	35%
3/4 Wheel Motorcycle	44,426	41%
Recreational Off-Highway Vehicle	4,777	4%
Other	21,819	20%
Total OHV Registrations	**108,930**	**100%**
Total 2024 Population	3,298,799	N/A
Per Capita OHV Registrations	**0.033**	**N/A**

Source: California Department of Motor Vehicles, Off-Highway Vehicle Registrations as of December 2024.
Note: 3/4 Wheel Motorcycle includes body types 3W, 3WMC, 4W, ATV and MCATV.

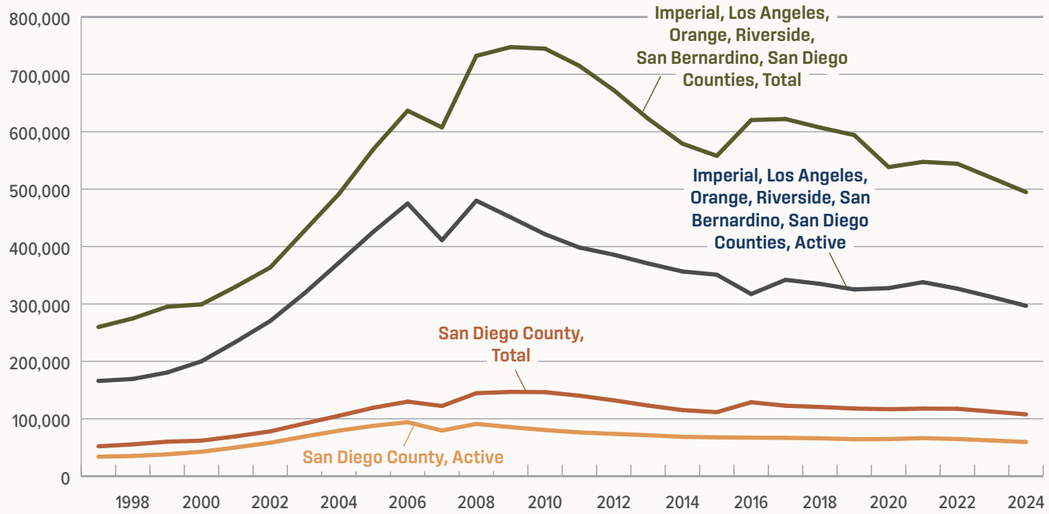
Table 3-1. Registered OHVs in San Diego County (Active + Inactive)

Given that San Diego County's population is 3.3 million people as of the 2020 Census (U.S. Census Bureau 2020), there is approximately 0.033 total registration per capita. This is 9% more registrations per capita than at the state level (based on 2024 statewide data), for which there are approximately 3.0 OHV registrations per capita.[1] Among OHV registrations in the county, ATVs and motorcycles comprise approximately 76% of all registrations (see **Table 3-1**).

Among OHV registrations in the county, ATVs and motorcycles comprise approximately 76% of all registrations.

Figure 3-1 highlights the trends in OHV registrations in San Diego County and the broader Southern California region, including the following six counties: Imperial, Los Angeles, Orange, Riverside, San Bernardino, and San Diego. The trend through time of both active and total registrations (which include inactive registrations that have expired) in San Diego County is very similar to the trend in the broader Southern California region. From 1997 to 2008, there was strong growth in OHV registrations (as high as 17% annual growth), except for a decline in 2007 (likely due to the major economic recession that occurred at that time). Since 2009 there has been a slow decline in OHV registrations. The registrations data, as compiled by the California Department of Motor Vehicles, show approximately 118,000 total OHV registrations in San Diego County in 2019. Between 2020 and 2022, total registration remained around 117,000, before dropping to 113,000 in 2023 and 109,000 in 2024. Despite the slight drop-off, these fluctuations are within the range of changes in registration over the past 10 to 20 years. Furthermore, the public reaction to DPR's outreach about the proposed facility has been robust, marked by significant involvement in the public meetings and surveys, along with a large volume of communications expressing interest and enthusiasm about the potential project (County of San Diego Parks and Recreation, 2025).

[1] Note that for comparison purposes, the 2024 population for the state was matched with the 2024 registration data to estimate the per capita registration in 2024.



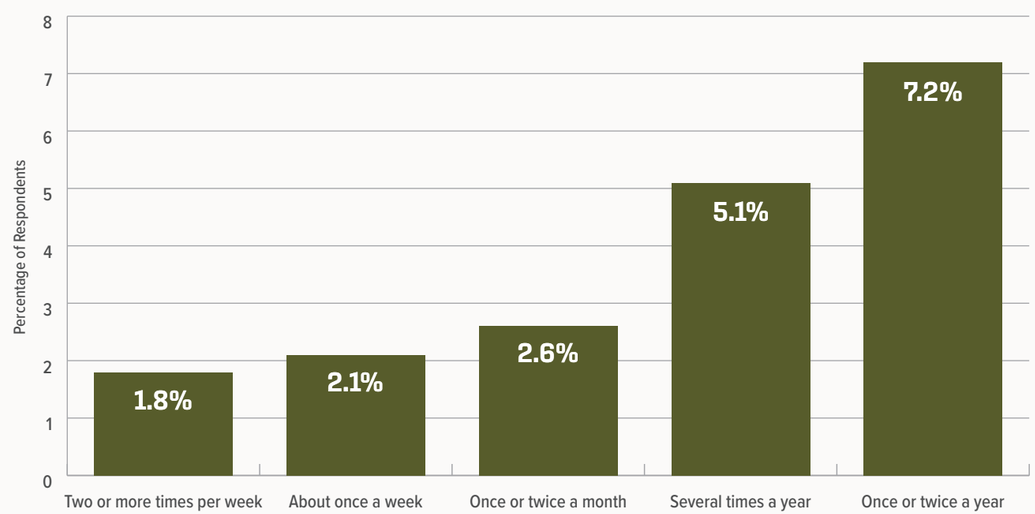
Source: California Department of Motor Vehicles, Off-Highway Vehicle Registrations as of September 30 of each year, personal communications from California DMV 2018 and 2025.

Figure 3-1. OHV Active and Total (Inactive + Active) Registrations in San Diego County and Six-County Southern California Region

A couple of factors are important to note regarding OHV registrations and what this may mean about the number of potential OHV participants. First, one household often has multiple OHVs. While data on ownership per household were not available for California, a 2008 study of Utah OHV users found that owners of off-highway motorcycles or mini-bikes tended to own two of the vehicles. The same was true of ATV owners; people who owned ATVs owned on average two ATVs. On the other hand, there are also households with one OHV and multiple OHV users. For example, a 2002 study of Tennessee OHV users estimated that there were more than 500,000 OHV users in the state, but only 250,000 households with OHV users (Fly, Stephens, Askinds, & Hodges, 2002).[2] This study estimated approximately one registered OHV per active OHV user.

Further, OHV participation on a per-capita basis may be much higher than indicated by registrations, as multiple individuals may use the same OHV. In a 2012 outdoor recreation survey conducted by California State Parks, 18% of respondents indicated that they had used an off-road motorized vehicle at least once in the last 12 months (at any location throughout the state, not just state park locations) (California State Parks, 2014). Multiplying this rate by the San Diego

[2] The study estimated a total of 527,800 OHVs in the state, of which 321,600 were estimated to be registered. The study also estimated that there were approximately 280,000 active OHV users in the state [who participated in off-road OHV recreation activity in the past 12 months]. This equates to approximately 1.17 registered OHV per active OHV recreationist.



Source: Table 11.3.2 from [California State Parks, 2014].

Figure 3-2. Frequency of Motorized Off-Road Use in Last 12 Months by Southern California Survey Respondents in 2012

County population estimate from the U.S. Census 2023 American Community Survey results in a total participation figure of about 590,000 people per year. This calculation assumes San Diego County residents participate in OHV recreation at rates similar to the statewide population, which is likely a conservative assumption given the higher number of total OHV registrations per capita in the county compared to the state as a whole. On the other hand, as noted above, there are approximately 3.3 total OHV registrations in San Diego County per 100 people, and approximately two active registrations per 100 people, so if active OHV participants users tend to own rather than rent OHVs and if households tend to own one OHV per user, then there may be only approximately 2–4% of the population who routinely participate in OHV activities.

Based on survey data from California State Parks and demographic data specific to San Diego County, 18% or more of the San Diego County population may participate in OHV recreation.

The 2012 State Parks survey data on the frequency of OHV use annually for California OHV users is provided in **Figure 3-2**. As shown in the figure, the largest share of OHV users recreates with OHV only once or twice a year, but approximately 6.5% of users recreate once a month or more. A more recent survey suggests a much higher frequency of participation: OHV respondents reported visiting the same park they most recently visited an average of 5 months per year and 3.7 times per month, for a total of 18.5 expected visits (Lankford, et al., 2024).

Visitation Data at State Vehicle Recreation Areas

There are very limited data available on the number of OHV visits at recreation areas. However, the National Forest Visitor Use Monitoring System tracks OHV activity participation and visit number. The most recent data reported for Cleveland National Forest (located in San Diego, Riverside, and Orange Counties) suggests that approximately 24,000 visits to the Forest involved OHV activities in 2019, including about 5,000 visits whose primary activity was OHV use (Forest Service, 2020a). Similarly, a recent report collected data suggesting a figure of about 27,000 OHV users in 2023 (Lankford, et al., 2024). At the other end of the range, the Palm Springs-South Coast Field Office, administering BLM lands in Riverside, Orange, parts of Los Angeles, San Bernardino, and San Diego Counties, reported user counts of 388,000 in 2023; likewise, the El Centro Field Office reported counts of 2,874,000 (Lankford, et al., 2024).

Visitation at individual SVRAs throughout the state generally ranges from 10,000 (at Heber Dunes) to 1.2 million (at Oceano Dunes) visitors per year.

In addition, California State Parks regularly estimate visitation at SVRAs, as shown in **Table 3-2**. **Table 3-2** also includes data for Anza-Borrego State Park, which is a popular OHV recreation site in San Diego County with 624 miles of motorized trails (and 1,122 miles of non-motorized trails that are popular with other users as well) (California State Parks, 2020).

We present the available visitation for the three most recent years for which data are available (up through fiscal year 2022–2023). As shown in the table, visitation typically varies from approximately 10,000 to 1.2 million visitors per year and the total statewide visitation at the eight SVRAs is approximately 2.3 million annually (including Anza-Borrego State Park total visitation, including non-OHV use, the total rises to 2.9 million visits).

Visitation at small SVRAs with short travel distances typically results in shorter trips, showing a pattern of quick day-use types of trips at such facilities.

Tables 3-3, **3-4**, and **3-5** present information on travel distance, length of visit, number of visitors per vehicle, and group composition, all based on a 2014 study on attendance at California SVRAs (California Department of Parks & Recreation, 2014). This information is helpful for determining the potential level of visitation at a new OHV site, and also to appropriately size the parking capacity. We present the data for all SVRAs for which there are available data, but particularly focus on Heber Dunes, Clay Pit, and Prairie City, as these three sites are likely most similar to the proposed new site in San Diego County. All three of these sites are 1,000 acres or smaller, are day use sites, and are located within an hour's drive time from a metropolitan area.

Facility	Acreage	2017-2018 Annual Day Use Visitation	2017-2018 Annual Camping Visitation	2017-2018 Total	2018-2019 Annual Day Use Visitation	2018-2019 Annual Camping Visitation	2018-2019 Total	2022-2023 Annual Day Use Visitation	2022-2023 Annual Camping Visitation	2022-2023 Total	2017-2023 Average Total
Heber Dunes SVRA	342	7,853	–	7,853	5,627	–	5,627	17,481	–	17,481	10,320
Hungry Valley SVRA	19,378	137,712	29,198	166,910	87,991	23,555	111,546	58,984	21,952	80,936	119,797
Ocotillo Wells SVRA	75,910[a]	139,766	182,363	322,129	147,931	232,018	379,949	793,649	633,135	1,426,784	709,621
Oceano Dunes SVRA	3,714	1,043,034	251,521	1,294,555	1,174,986	292,151	1,467,137	782,295	126,192	908,487	1,223,393
Hollister Hills SVRA	6,625	62,788	46,569	109,357	86,070	N/A	86,070	40,191	13,727	53,918	83,115
Carnegie SVRA	5,075	56,148	11,929	68,077	42,429	11,820	54,249	23,870	8,005	31,875	51,400
Clay Pit SVRA	220	16,701	–	16,701	14708	–	14,708	34,030	–	34,030	21,813
Prairie City SVRA	1,003	80,448	–	80,448	77,185	–	77,185	–	–	–	78,817
Anza-Borrego Desert State Park[b]	469,093	296,793	222,385	519,178	463,574	271,578	735,152	420,676	126,315	546,991	600,440
Average	**140,506**	**204,583**	**123,994**	**287,245**	**233,389**	**166,224**	**356,805**	**271,397**	**154,888**	**387,563**	**322,080**
Total	**1,264,551**	**1,841,243**	**743,965**	**2,585,208**	**2,100,501**	**831,122**	**2,931,623**	**2,171,176**	**929,326**	**3,100,502**	**2,898,717**

Source: [California State Parks, 2019] [California State Parks, 2018] [California State Parks, 2020] [California State Parks, 2024]
Note: Data for the fiscal year 2019-2020 has not been released. Data published for the fiscal year 2021-2022 is not included due to the disruption to visitation figures caused by the COVID-19 pandemic.
a Acreage in the 2018-2019 California State Park System Statistical Report, which corresponds with the visitation reported. Current acreage reported on the Ocotillo Wells website is approximately 85,000 acres.
b Data include non-OHV.

Table 3-2. Anza-Borrego Desert State Park and SVRA Visitation throughout California, 2017-2023

***Family-oriented nature of OHV recreation**. Depending on the SVRA, about 25-50% of visitors to each SVRA were families with children under 18.*

A plurality of users reported spending between 4.1 and 8 hours at the SVRA. This length of time fits with user data from Cleveland National Forest showing that visitors who came to the Forest primarily for OHV activities spent an average of 5 hours there (U.S. Forest Service, 2020a). Further, the data presented in **Table 3-3** are similar to data from studies of OHV use in other states. For example, according to a 2008 study of Utah OHV users, the length of Utah OHV day use trips averaged 6.29 hours, including travel time to and from home and time spent on other recreational activities (Burr, Smith, Reiter, Jakus, & Keith, 2008).

Attendance at California SVRAs is typically estimated based on vehicle counts and the estimated number of visitors per vehicle (known as conversion factors). As highlighted in **Table 3-4**, the state estimates that there are generally approximately two visitors for each vehicle recorded at SVRAs. This conversion factor takes into account the occupants per vehicle and the number of visitors who may be driving to the site with a street-legal OHV from a nearby location.

Table 3-5 presents the findings on group composition from the 2014 study on attendance at California SVRAs (California Department of Parks & Recreation, 2014). These findings highlight the social and family-oriented nature of OHV recreation. Depending on the SVRA, about 25–50% of visitors to each SVRA were families with children under 18. Only 8–28% of visitors at any SVRA were recreating alone. A recent survey reinforces these findings, reporting an average of 6.2 adults and 3.8 children in each travel party (Lankford, et al., 2024). Together, these data indicate that a new OHV park in San Diego County—particularly with facilities appropriate for youth riders—could attract families by reducing travel time and enabling families to ride part of the day and then still have time to participate in other family events on the same day.

Approximately 25-50% of visitors to each SVRA were families with children under 18.

	Distance Traveled to SVRA (Miles)			Time at Site (Hours)					
SVRA	Fewer than 25	25-50	More than 50	Fewer than 2	2.1-4	4.1-8	More than 8.1	% 4 Hours or Fewer	Median Time at Site
Heber Dunes	95.4%	1.7%	2.1%	38.7%	42.0%	14.7%	1.3%	80.7%	3.0
Clay Pit	80.2%	16.0%	3.1%	67.4%	24.3%	6.3%	1.0%	91.7%	2.0
Prairie City	65.7%	17.4%	16.2%	9.8%	38.7%	39.5%	11.3%	48.5%	4.5
Hungry Valley	7.9%	35.1%	56.4%	4.4%	21.8%	62.5%	9.9%	26.2%	6.0
Ocotillo Wells	3.8%	8.1%	85.1%	3.2%	15.7%	63.2%	13.0%	18.9%	6.0
Oceano Dunes	7.9%	1.4%	87.0%	7.9%	1.4%	87.0%	3.6%	9.3%	6.1
Hollister Hills	15.5%	26.0%	56.3%	5.1%	20.9%	66.3%	6.6%	26.0%	6.0
Carnegie	35.8%	46.9%	15.6%	3.1%	29.7%	63.0%	3.7%	32.8%	5.0

Source: (California Department of Parks & Recreation, 2014)

Table 3-3. SVRA Travel Distance and Length of Visit

SVRA	Paid Day Use	Free Day Use	Camping (sites)
Heber Dunes		2.6	
Clay Pit		2.0	
Prairie City	2.0	2.0	
Hungry Valley	1.9	1.9	1.9
Ocotillo Wells		2.2	2.2
Oceano Dunes	2.1	2.1	2.7
Hollister Hills	1.9	1.9	1.9
Carnegie	1.8	1.8	1.8

Source: (California Department of Parks & Recreation, 2014)

Table 3-4. Estimated Number of Visitors per Vehicle at SVRAs

SVRA	Group	Solo	Groups with No Kids Under 18	Groups With Kids Under 18
Heber Dunes	83%	17%	63%	37%
Clay Pit	75%	25%	67%	33%
Prairie City	74%	26%	62%	38%
Hungry Valley	79%	21%	67%	34%
Ocotillo Wells	89%	11%	60%	40%
Oceano Dunes	92%	8%	52%	48%
Hollister Hills	77%	23%	64%	36%
Carnegie	72%	28%	74%	26%

Source: (California Department of Parks & Recreation, 2014)

Table 3-5. Group Composition at SVRAs

Location of OHV Users Relative to Potential Sites

Surveys of OHV riders have shown that proximity to riding sites is a priority for OHV recreationists, with proximity or ease in getting to the site the most important factor in selecting a site to visit (Burr, Smith, Reiter, Jakus, & Keith, 2008) (Fly, Stephens, Askinds, & Hodges, 2002). For example, when asked the reason why they ride in their most frequently visited OHV recreation site, a study of Utah OHV users found that 53.1% chose the location because of ease in reaching the site. As such, in locating a new OHV park, it is important to consider where OHV users live in San Diego County and travel distance to the park.

OHV recreationists tend to visit sites easy to access and travel on average up to 60 miles to visit SVRAs.

Data presented in **Table 3-6** from the SVRAs indicates that, with the exception of the OHV areas to which people travel relatively long distances (such as Oceano Dunes and Ocotillo Wells), people who recreate at them tend to visit SVRAs frequently, and travel on average (as measured by median distance traveled) approximately 10–60 miles. According to a recent survey, residents of San Diego County predominately visit sites within the county (63.9%), followed by sites in Imperial (20.4%), San Bernardino (7.4%), San Luis Obispo (2.8%), and Alpine, Glenn, Riverside, and San Joaquin Counties (0.9% each) (Lankford, et al., 2024).[3] OHV visitors to San Diego County likewise came primarily from within the county (48.6%), and then from Riverside County (15.5%), San Bernardino County (4.2%), Los Angeles County (3.5%), out of state (2.1%), Santa Clara County (1.4%), and then Alameda, Madera, Orange, and Ventura Counties (0.7%).[4] About 40% of respondents (in all counties) reported traveling less than 50 miles to the OHV site they visited most recently.

SVRA	Distance Traveled (Miles)		Average Annual Visit Days per Rider	
	Median	Mean	Median	Mean
Heber Dunes	10	14.8	10	12
Clay Pit	10	18.7	3	8.9
Prairie City	20	41.2	7	15.5
Hungry Valley	60	67.4	8	13
Ocotillo Wells	100	160		
Oceano Dunes	180	217	1	1.02
Hollister Hills	60	82.7	10	17.3
Carnegie	34.5	40	10	18.4

Source: [California Department of Parks & Recreation, 2014]

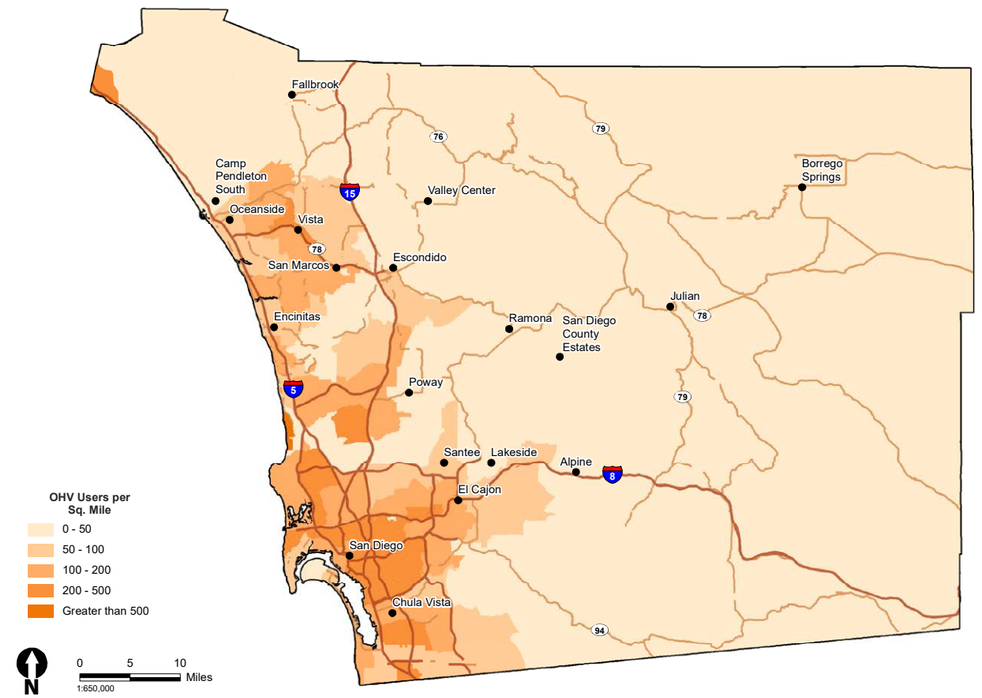
Table 3-6. Distance Traveled and Number of Visits per User at SVRAs

[3] About 2% of residents did not report their destination.

[4] About 15% of visitors did not report their place of origin.

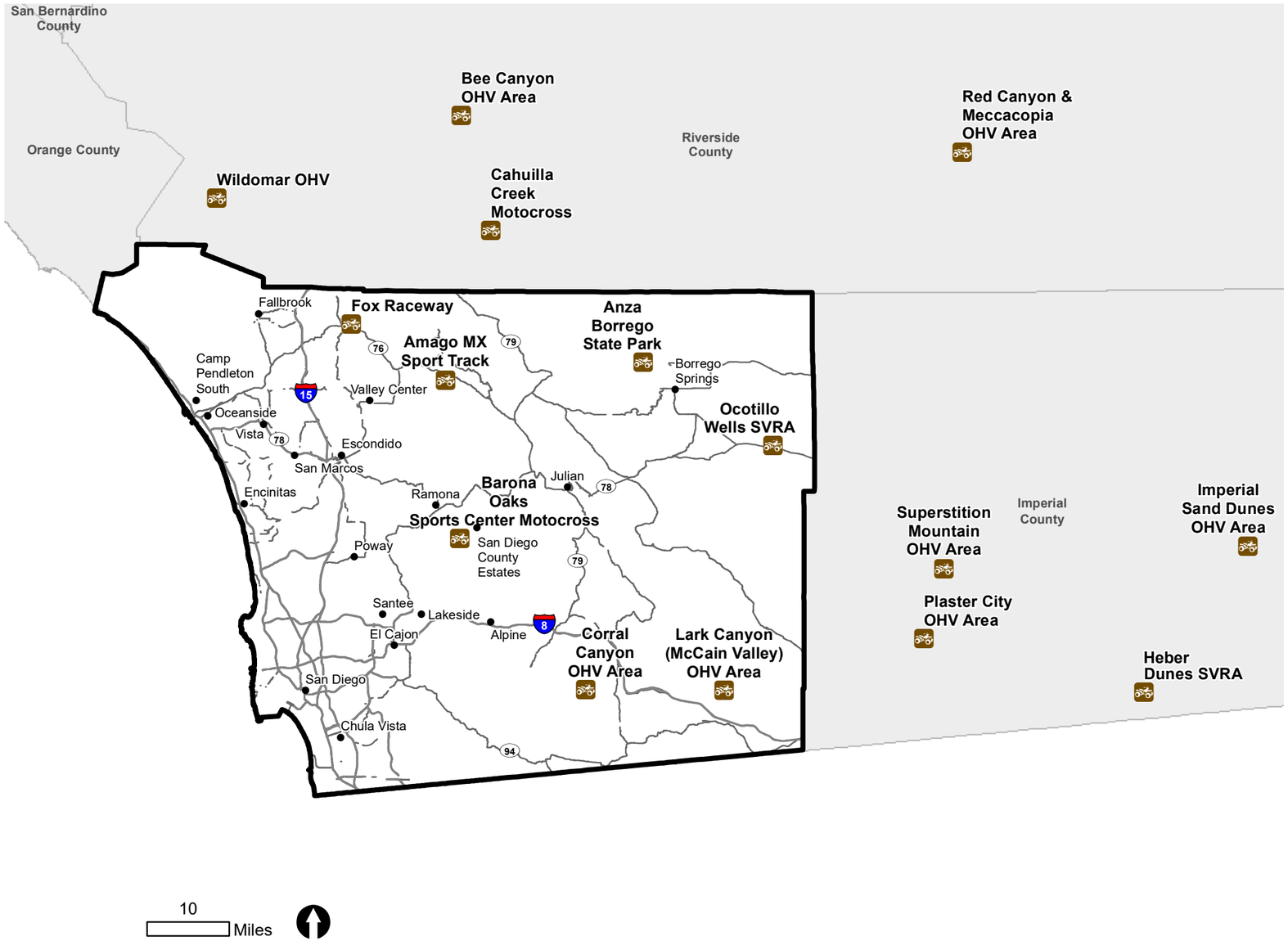
3.2 Market Supply

The existing supply of OHV sites is important to consider when researching a new OHV recreation location. Locating a new OHV site in an area with a large OHV user population but few OHV opportunities is likely much more beneficial in terms of decreasing OHV travel distances and increasing opportunities for OHV recreation. This is likely the case for western San Diego County, where there is a substantial OHV user population (see **Figure 3-3**), but few opportunities for OHV use (see **Figure 3-4**), aside from some truck trails on public lands in western/south central San Diego County at Palomar Mountain, near Pamo Valley/Ramona, Otay Mountain, and at Valley of the Moon. Most public lands with authorized off-road OHV use in the county are in the southeastern portions of the county, including OHV opportunities in Ocotillo Wells SVRA, Corral Canyon OHV Area, and Lark Canyon OHV Area. Other legal OHV areas more proximate to population centers in western San Diego County include Barona Oaks Motocross Sports Center and Fox Raceway, private motocross parks and tracks that offer very different OHV recreation opportunities.



Source: ICF

Figure 3-3. Density of OHV Users in San Diego County



Source: ICF

Figure 3-4. Map of Key OHV Sites in San Diego County and Neighboring Counties

Site	County	Nearest Town	Acreage	Motorized Trail Mileage	Entry Fees	Notes
State Vehicular Recreation Areas						
Ocotillo Wells	Imperial and San Diego	Borrego Springs	~85,000	251	None	Desert, dunes, 4X4 training area, open camping, campgrounds
Heber Dunes	Imperial County	El Centro	342	7	None	Dune riding, beginner's practice area, no camping
State Parks						
Anza-Borrego	San Diego	Borrego Springs			$10/ vehicle	Primitive roads (closed to off-road recreation)
Bureau of Land Management Lands						
McCain Valley Lark Canyon OHV Area	San Diego	Live Oak Springs	19,200	40	None	Designed for motorcycles, ATVs no wider than 40 inches, campgrounds; mostly trails
Superstition Mountain	Imperial	El Centro	13,000	Open riding	None	Sand dunes, mud hills, rocky trails, hard pack desert, primitive camping
Plaster City	Imperial	El Centro	28,000	Open riding	None	Mostly flat desert terrain, sand dunes and hard pack, primitive camping
Red Canyon & Meccacopia	Riverside	Indio		42.5	None	Jeep trails
U.S. Forest Service						
Wildomar OHV (Cleveland)	Riverside	Lake Elsinore	360	8	$5/day or $30/year	Desert, wide and hard packed trails
Corral Canyon OHV (Cleveland)	San Diego	Morena Village	1800	51	$5/day or $30/year	Forest, mostly hard pack, kids play area, campgrounds
Bee Canyon (San Bernardino)	Riverside	Hemet	12,800	20	$5/day or $30/year	Forest, hard pack roads in narrow canyons
Private						
Barona Oaks MX	San Diego	Ramona	80	2 tracks	$30-$35/ rider	Urban/human-made, beginner training area, camping
Fox Raceway	San Diego	Pala	240	3 tracks	$20-$30/ rider	Urban/human-made, primitive camping
Amago Sports Park	San Diego County	Pauma Valley	40	3 tracks	$10/rider	Urban/human-made, no camping

Sources: Rider Planet USA, Google Maps, U.S. Forest Service, Bureau Land Management, AllTrails.com, California State Parks.

Table 3-7. Example OHV Sites in San Diego and Neighboring Counties

Otherwise, to find public lands where off-road OHV riding is available, San Diego County residents generally must travel to locations in other counties, primarily U.S. Forest Service and BLM federal lands in Riverside and Imperial counties (see **Table 3-7**). For many OHV recreationists in San Diego County, an off-road OHV recreation site may require a 1 to 2 hours' drive time. Thus, a new OHV park in the county near population centers would likely decrease travel distance for OHV recreationists and provide off-road OHV opportunities where few are currently available.

There are few off-road OHV sites on public lands in the county and no sizable public sites in western San Diego County that authorize off-road OHV riding.

In addition to authorized sites, the county also experiences unauthorized OHV use. As noted by DPR (2021), "High [OHV] demand combined with a limited number of legal OHV facilities that are located at a substantial distance from communities and incorporated cities has resulted in a growing amount of unauthorized OHV use on open space lands throughout the region." This unauthorized OHV use can have adverse environmental effects, including on threatened and endangered species (County of San Diego Parks and Recreation, 2021). There are approximately 1 million acres of land in San Diego County that can be adversely affected by illegal off-road OHV use (San Diego County Sheriff's Office, 2023). The San Diego County Sheriff's Department has a dedicated Off-Road Enforcement Team that has identified areas of concern with illegal OHV riding, including open spaces in Otay Mesa, Eagles Nest, and Sycamore Canyon.

3.3 Conclusions on Potential Demand

The above sections have highlighted that the demand for a new OHV park in San Diego County will depend on many factors, including the proximity of the facility to OHV users, and the features of the facility (including the facility size, terrain types, amenities, types of OHVs that will be accommodated). Focusing on the location of the park in terms of proximity of the facility to OHV users, **Table 3-8** provides a range of possible annual visitation.

Visitation at a new, well-designed OHV park may be in the range of approximately 17,500 to 120,000 visitors annually, depending on site location, amenities, size, and fees.

Based on the analysis in **Table 3-8**, the visitation data at SVRAs (see **Table 3-2**), and the fact that San Diego County has high OHV demand combined with a relatively low supply of OHV opportunities, we expect visitation at a new, well-designed OHV park could be in the range of 17,500 to 120,000 visitors annually.

Estimate Type (depending on site location, amenities, etc.)	Number of OHV Registrations Within Set Driving Time from New OHV Site)			Estimated Annual Visits Per Registration(Given Distance of Registration from New OHV Site)			Total Potential Visits
	20-Minute Drive	40-Minute Drive	60-Minute Drive	20-Minute Drive	40-Minute Drive	60-Minute Drive	
Low Estimate	10,000	15,000	30,000	1	0.5	0	17,500
Medium Estimate	15,000	20,000	50,000	2	0.5	0.25	52,500
High Estimate	20,000	30,000	60,000	3	1	0.5	120,000

Table 3-8. Potential Annual Visitation

3.4 References

Aquino, E. (2025, July 24). Park Project Manager. *Personal communication*. San Diego County, California.

Arizona State University. (2018). *Economic Impact of Off-Highway Recreation in the State of Arizona*.

Brenan, R. (2020, December 2). Government Relations and Public Affairs, Kawasaki. (B. Wyse, Interviewer)

Bureau of Transportation Statistics. (2021, February 16). *Average Fuel Efficiency of U.S. Light Duty Vehicles*. Retrieved from Bureau of Transportation Statistics: https://www.bts.gov/content/average-fuel-efficiency-us-light-duty-vehicles

Burr, S. W., Smith, J. W., Reiter, D., Jakus, P., & Keith, J. (2008). *Recreational Off-Highway Vehicle Use on Public Lands in Utah*. State of Utah.

California Department of Parks & Recreation. (2014). *Off-Highway Motor Vehicle Recreation Division Attendance Study 2012-2013*. Sacramento: California Department of Parks & Recreation.

California Department of Parks and Recreation. (2018). *State Park System Statistical Report 2016/2017 Fiscal Year*. Retrieved from California Department of Parks and Recreation: https://www.parks.ca.gov/pages/795/files/16-17%20Statistical%20Report%20FINAL%20for%20web.pdf

California Legislative Analyst's Office. (2017). Improving State's Approach to Park User Fees. California Legislative Analyst's Office. Retrieved from https://lao.ca.gov/Publications/Report/3527

California State Department of Parks and Recreation. (n.d.). *California State Parks Day Use Fees*. Retrieved from California State Department of Parks and Recreation: https://www.parks.ca.gov/pages/737/files/current_web_day%20use.pdf

California State Parks. (2014). *Survey on Public Opinions and Attitudes on Outdoor Recreation in California*. Sacramento.

California State Parks. (2018). *Statistical Report Fiscal Year 2016-2017*.

California State Parks. (2019). *Statistical Report Fiscal Year 2017-2018*.

California State Parks. (2020). *Statistical Report 2018/2019 Fiscal Year Recreation Section*. Sacramento.

California State Parks. (2022). *Natural History: Plants and Wildlife*. Retrieved from California State Parks Off Highway Motor Vehicle Recreation: https://ohv.parks.ca.gov/?page_id=21918

California State Parks. (2022). *Oak Woodland Preserve*. Retrieved from California State Parks Off Highway Motor Vehicle Recreation: https://ohv.parks.ca.gov/?page_id=25604

California State Parks. (2024). *Statistical Report*. 2022/2023 Fiscal Year. Retrieved from State Park System Statistical Report: https://www.parks.ca.gov/pages/795/files/Official%202022-23%20STAT%20REPORT.pdf

County of San Diego Parks and Recreation. (2021). *County of San Diego Parks and Recreation*. Retrieved from Public Notes: Feb 2021 - Off-Highway Vehicle Feasibility Study: https://www.sdparks.org/content/sdparks/en/AboutUs/Plans/PublicNotices.html

Fly, J. M., Stephens, B., Askinds, L., & Hodges, D. (2002). *Tennessee OHV User Survey*. Knoxville: Human Dimensions Research Lab University of Tennessee.

Franks, N. (2020, October 5). Vegetation Manager, Joshua Tree National Park. (T. Wirkkala, Interviewer)

Lankford, S. V., Kowalski, C., Levitt, J., Lankford, J., Grybovych-Hafermann, O., Mahoney, M., & Whiting, J. (2024). A Study of the Demographics and Economic Impacts of OHV/OSV Users in the State of California. Fresno: California State Parks OHV.

Lindberg, K., & Bertone-Riggs, T. (2015). *Oregon Off-highway Vehicle Participation and Priorities*. Oregon Parks and Recreation Department.

Peterson, J. (2020, December 3). Communications, Recreational Off-Highway Vehicle Association. (B. Wyse, Interviewer)

Pilg, T. (2020, December 8). Beta Motorcycles USA President. (B. Wyse, Interviewer)

Riverside Sheriff's Office. (2020, March 3). *Off-Highway Motor Vehicle Grants*. Retrieved from Riverside Sheriff's Office: https://www.riversidesheriff.org/CivicAlerts.aspx?AID=884&ARC=2096

Rosenberger, R. S., White, E. M., Kline, J., & Cvitanovich, C. (2017). *Recreation Economic Values for Estimating Outdoor Recreation Benefits from the National Forest System*. US Forest Service.

San Diego County Sheriff's Office. (2023, March 4). *Law Enforcement Needs for Grants and Cooperative Agreements Program - 2023, Applicants: San Diego County Sheriff's Department; Application: Law Enforcement*. Retrieved from Off Highway Motor Vehicle Recreation Grants and Cooperative Agreements Program: https://olga.ohv.parks.ca.gov/egrams_ohmvr/user/ReviewProjects.aspx

Silberman, J., & Andereck, K. L. (2006). The Economic Value of Off-Highway Vehicle Recreation. *Journal of Leisure Research*, 208-223.

SMG. (2018). *Ocean Dunes District-California State Parks Economic Impact Analysis Report 2016/17*. Sacramento: California State Parks.

U.S. Bureau of Economic Analysis. (2021). *Outdoor Recreation Satellite Account (ORSA) California, 2020*. Retrieved from Outdoor Recreation Satellite Account (ORSA) : https://apps.bea.gov/data/special-topics/orsa/summary-sheets/ORSA%20-%20California.pdf

U.S. Forest Service. (2008). *Off-Highway Vehicle Recreation in the United States and its Regions and States*.

U,S, Forest Service. (2020a). USDA Forest Service National Visitor Use Monitoring. Retrieved from Activity Participation: https://apps.fs.usda.gov/nvum/results/A05002.aspx/FY2019.

U.S. Forest Service. (2020b). *Wildomar OHV Area*. Retrieved from US Forest Service: https://www.fs.usda.gov/recarea/cleveland/recreation/ohv/recarea/?recid=47680&actid=93

COUNTY OF SAN DIEGO OHV PARK FEASIBILITY STUDY

CHAPTER 4
PHASE 1 SITE ANALYSIS

The first step in the site evaluation process was to search the County for areas with potential for siting an OHV park, using a GIS modeling process to analyze over 30 GIS data layers representing opportunities and constraints for an OHV park. The analysis identified 24 potential sites, which were then narrowed down through multiple rounds of evaluation based on criteria such as proximity to OHV users, ecological sensitivity, and land ownership. Public feedback and willing seller responses further refined the list, ultimately resulting in nine sites advancing to Phase 2 of the site selection process.

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4.0 PHASE 1 SITE SELECTION

This chapter provides an overview of the site evaluation and selection process designed for this feasibility study.

The first step in the site evaluation process was to search all of San Diego County for areas with the highest potential for siting an OHV park, which would then receive more detailed assessment. This first step used a GIS modeling process to analyze over 30 GIS data layers that represent opportunities and constraints for development of an OHV park. The GIS modeling approach allowed efficient analysis of large, complex datasets at a county-wide scale, quickly highlighting areas that are more suitable or less suitable for an OHV park.

GIS modeling allowed efficient analysis of large, complex datasets at a county-wide scale, quickly highlighting areas that are more suitable or less suitable for an OHV park.

4.1 Phase 1 Site Selection Process

Preparation of the GIS model followed a five-step process to create a weighted-value composite grid. Each step is summarized below and discussed in detail in the sections that follow.

Step 1: Collecting Data

DPR and its project team collected GIS data to portray both the opportunities and constraints associated with identifying a suitable location for an OHV park in San Diego County. Data layers included administrative/ownership data, ecological data to prevent impacts on sensitive habitats and special-status species, land use planning data to remain consistent with county-wide land use planning, and soils and terrain data to avoid harmful erosion and prioritize sites with terrain suitable for OHV facilities. Over 30 separate data layers ultimately were selected for use in the model.

Step 2: Creating a Standardized Grid

Each layer of data was transformed into a grid dataset. Each grid layer shared identical spatial boundaries and a grid cell size of 30 meters by 30 meters. This step ensures that each layer's grid cells align perfectly when overlaid on top of each other, which allows the mathematical analysis described in subsequent steps.

Step 3: Assigning Grid Values

Each grid layer was then assigned a weighted numerical scale so features that are less suitable for OHV use (e.g., riparian habitat types) are represented by a negative value and features that are more suitable for OHV use (e.g., disturbed or developed land) are represented by a positive value. Higher negative values indicate stronger constraints and higher positive values indicate stronger opportunities.

Step 4: Creating a Composite Layer

GIS grid analysis tools were used to mathematically overlay each of the individual layers. The value in each grid cell of the resulting composite layer is the mathematical sum of the values of that same cell in each contributing layer. The highest positive values in the composite layer indicate areas with the most opportunities and/or the fewest constraints. The highest negative values indicate areas with the fewest opportunities and/or the most constraints.

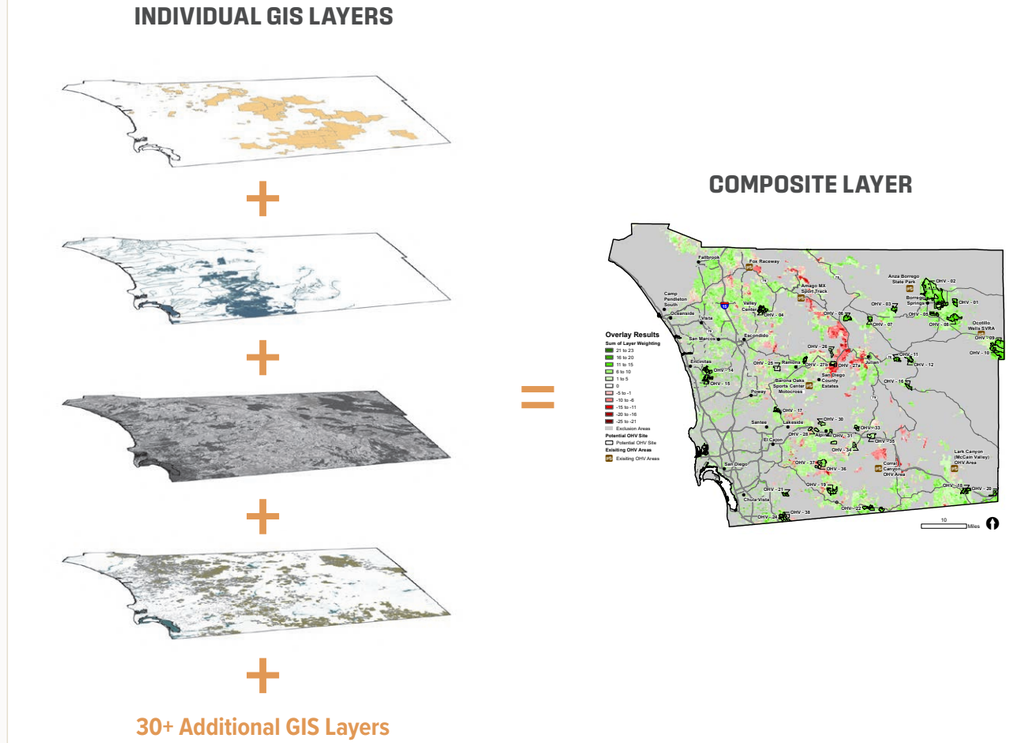


Figure 4-1. GIS Composite Layer Creation

The process of combining individual GIS layers into a single layer for analysis is illustrated conceptually in **Figure 4-1**.

Step 5: Refining the Analysis

DPR reviewed the initial overlay model output and the project team adjusted the data weighting scheme to better reflect the DPR's interests and priorities. The final composite layer was then queried to identify high scoring contiguous grid cells that form an area large enough to support an OHV park. Those areas became the list of sites that were advanced into the Phase 2 site selection stage.

High-scoring, contiguous grid cells that formed an area large enough to support an OHV park became the list of sites advanced to Phase 2.

Description	Constraint	Opportunity
Agricultural Preserve	●	
Agricultural Preserve Contract	●	
Conserved Lands	●	
Critical Habitat	●	
Developable Land		●
Indian Reservations	●	
Military Bases and Ranges	●	
MSCP_SouthCo_HABITRAK	●	
Preliminary East County MSCP	●	●
Preliminary North County MSCP	●	●
Public Utility Mitigation Sites	●	
Rare Waters with Rare, Threatened, and Endangered Species	●	
San Diego City's Master Habitat Planning Area	●	
San Diego County Planned Land Use	●	●
Slopes	●	●
South County MSCP	●	●
Trail/Road Erosion Hazard	●	●
Vegetation Communities	●	●
Wetlands	●	
Wilderness Areas	●	
Wind Erosion Potential	●	●

Table 4-1. Geographic Data Used in the Overlay Model (Phase 1 Data Layers)

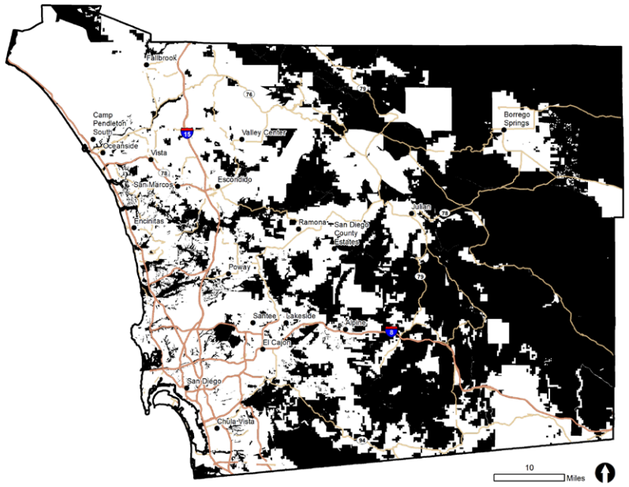
Description	Weighting
Very High Opportunity Weighting	5
High Opportunity Weighting	4
Moderate High Opportunity Weighting	3
Low-Moderate Opportunity Weighting	2
Low Opportunity Weighting	1
Data Excluded or No Effect	0
Low Constraint Weighting	-1
Low-Moderate Constraint Weighting	-2
Moderate High Constraint Weighting	-3
High Constraint Weighting	-4
Very High Constraint Weighting	-5
Area Removed from Consideration	-1000

Table 4-2. Overlay Model Weighting Scheme

4.2 Phase 1 GIS Model Data Layer Selection and Weighting

Table 4-1 provides an overview of the data layers selected for use in the overlay model. **Table 4-2** shows the weighting scheme used to indicate levels of opportunities and constraints within the model. Detailed descriptions of the data layers and the weighting logic the project team used in the GIS analysis are presented in the following pages.

- **Administrative and Ownership Data Layers**. A total of four layers representing administrative and ownership were included in the GIS model: Conserved Lands (e.g. Preserves), Military Lands, Tribal Lands, and BLM Wilderness Areas. Descriptions of these data layers and the weighting logic used by the project team appear on pages 25 and 26.
- **Ecological Data Layers**. A total of 20 layers representing ecological resources were included in the GIS model. These included critical habitat for nine animal/insect species, seven plant species, vegetation communities, and aquatic resources. Descriptions of these data layers and the weighting logic used by the project team appear on pages 27–36.
- **Soil Erosion and Terrain Layers**. Three layers representing soil and terrain factors were included in the GIS model. These included slope and soil information specific to erosion potential. Descriptions of these data layers and the weighting logic used by the project team appear on pages 37 and 38.
- **Planning Layers**. Ten layers representing relevant planning and zoning factors were included in the GIS model. These included lands granted protections for agricultural and ecological conservation purposes, mitigation sites, and County General Plan land use designations. Descriptions of these data layers and the weighting logic used by the project team appear on pages 39–43.



Attribute	Weighting
City	-1000
County	-1000
County DPR	-1000
County Other	-1000
Federal	-1000
Home Owners Association	-1000
Joint	-1000
Non-Profit	-1000
Private	-1000
Special District	-1000
State	-1000
Tribe	-1000

Conserved Lands

Description

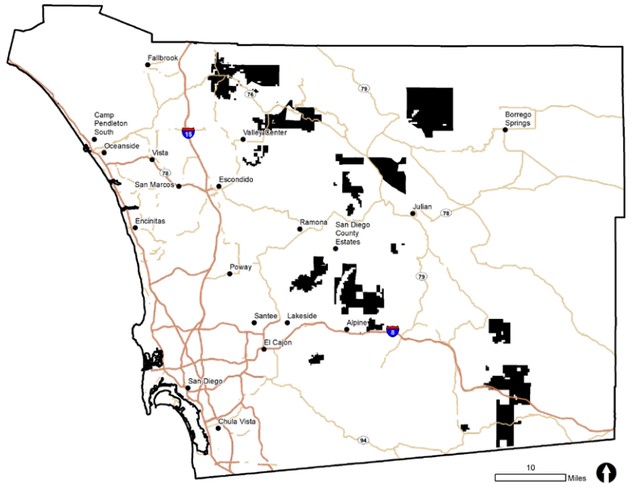
This San Diego County database provides a comprehensive inventory of land that is conserved to protect open space and natural habitats. This database includes a wide range of ownership types that have land under protection including County, federal, and private lands held for conservation.

Weighting Logic

All conserved lands were weighed equally, regardless of land ownership, to exclude them from consideration for an OHV park).

Source

SANDAG 2022a



Attribute	Weighting
No attribute	-1000

Tribal Lands

Description

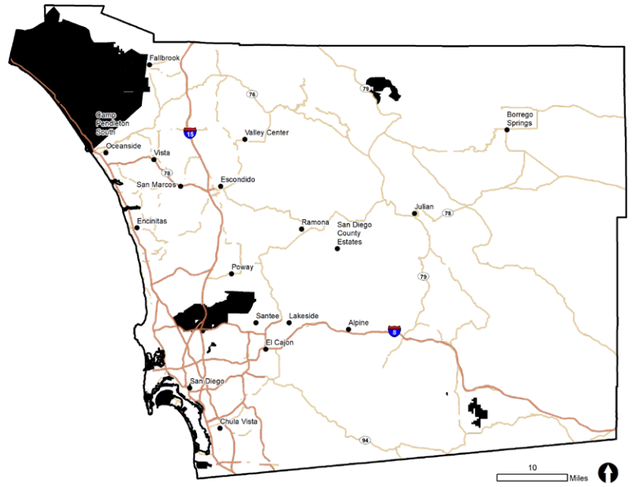
This database provides information on reservations as documented by the County of San Diego Assessor's Office.

Weighting Logic

All reservations Tribal lands were weighed equally to exclude them from consideration for an OHV park. While there may be opportunities to co-manage an OHV park with another entity such as a Tribe, this planning exercise is focused on developing an OHV park on private land to be purchased by the County.

Source

SANDAG 2023



Attribute	Weighting
No attribute	-1000

Military Bases and Ranges

Description

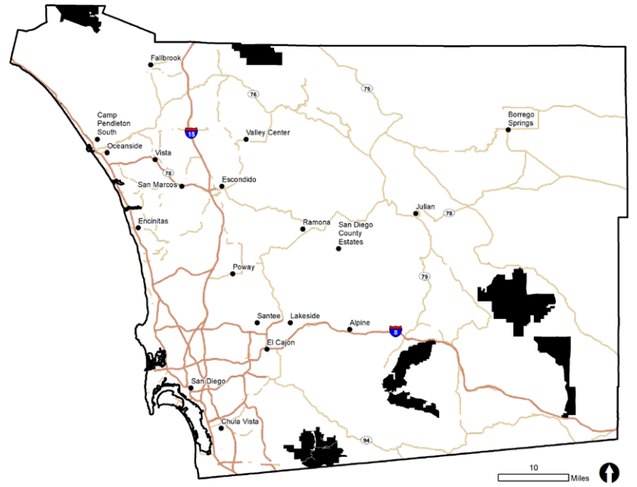
Lands owned and operated by the U.S. military.

Source

DOD 2019

Weighting Logic

All military bases and ranges were weighed equally to exclude them from consideration for an OHV park.



Attribute	Weighting
No attribute	-1000

Wilderness Areas

Description

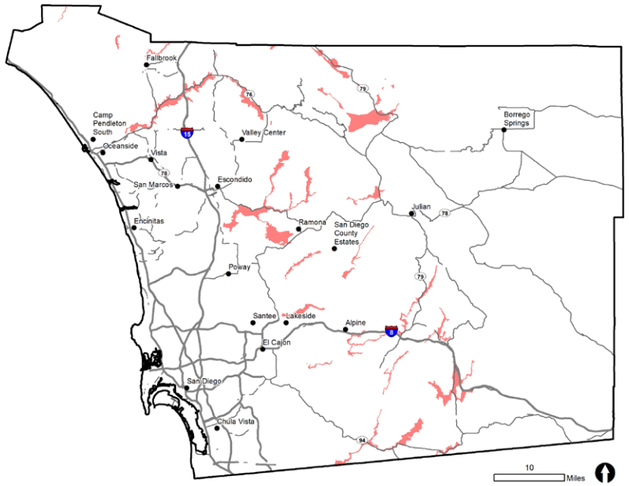
This database provides information on federal lands designated for protection under the Wilderness Act.

Source

BLM 2023

Weighting Logic

Wilderness areas were weighed equally to exclude them from consideration for an OHV park. Mechanized use is prohibited in protected wilderness areas.



Attribute	Weighting
Final Critical Habitat	-2

Critical Habitat: Arroyo Toad

Description

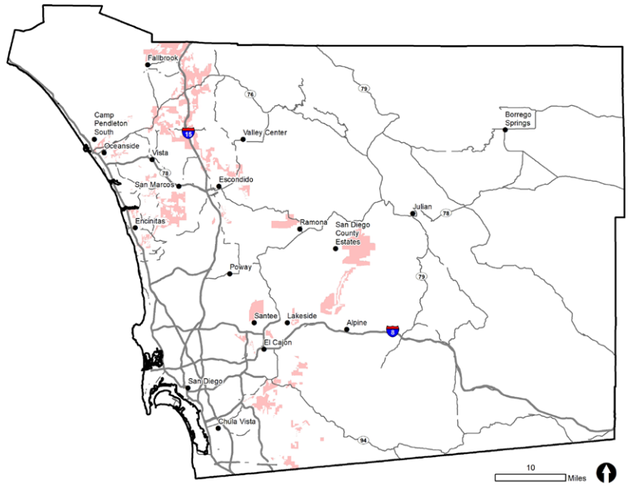
This data layer identifies potential habitat for the federally listed species arroyo toad (*Anaxyrus californicus*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with the U.S. Fish and Wildlife Service (USFWS). If there is a federal nexus through another project element, consultation with USFWS is required as part of the project development process.

Weighting Logic

Arroyo toad critical habitat was given a low-moderate constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Coastal California Gnatcatcher

Description

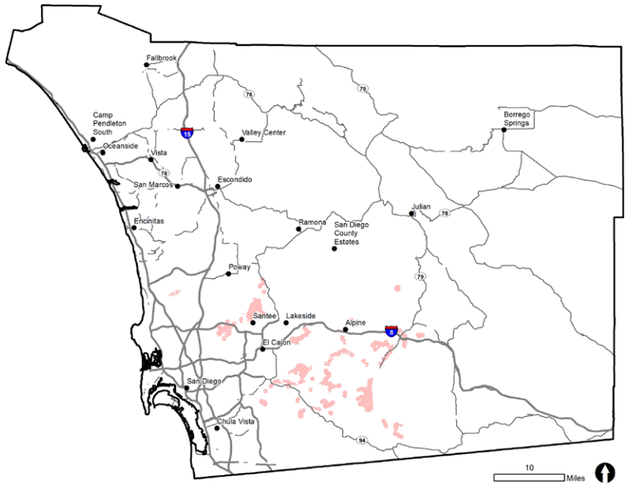
This data layer identifies potential habitat for the federally listed species coastal California gnatcatcher (*Polioptila californica californica*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Coastal California gnatcatcher critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Hermes Copper Butterfly

Description

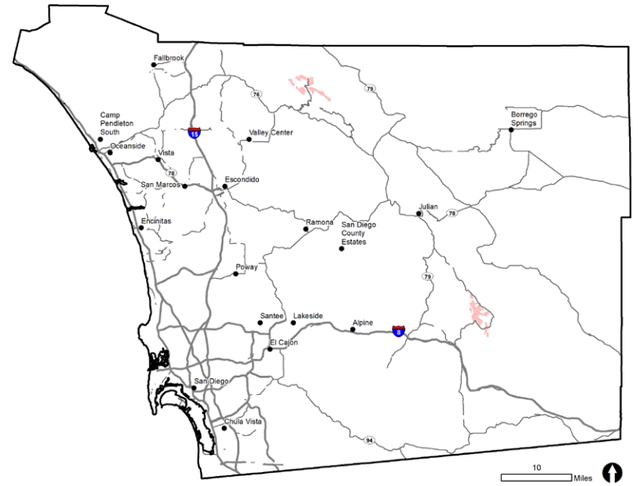
This data layer identifies potential habitat for the federally listed species Hermes copper butterfly (*Lycaena hermes*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Hermes copper butterfly critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Laguna Mountains Skipper

Description

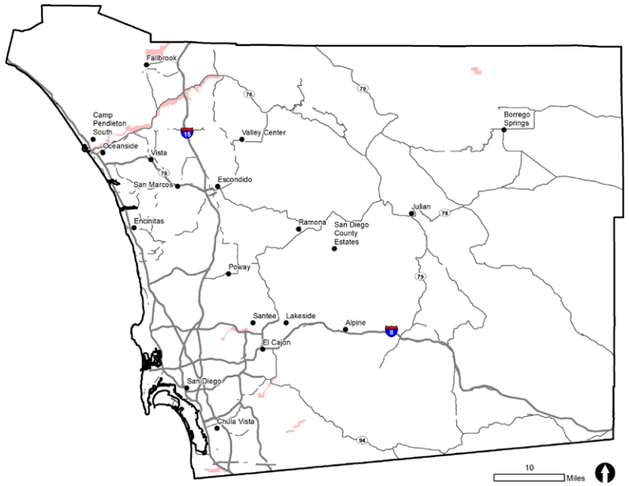
This data layer identifies potential habitat for the federally listed species Laguna Mountains skipper (*Pyrgus ruralis lagunae*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Laguna Mountains skipper critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated at a detailed level during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Least Bell's Vireo

Description

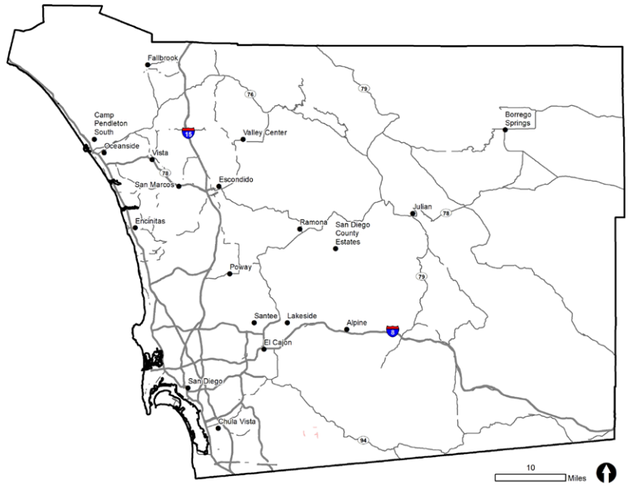
This data layer identifies potential habitat for the federally listed species least Bell's vireo (*Vireo bellii pusillus*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Least Bell's vireo critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Mexican Flannelbush

Description

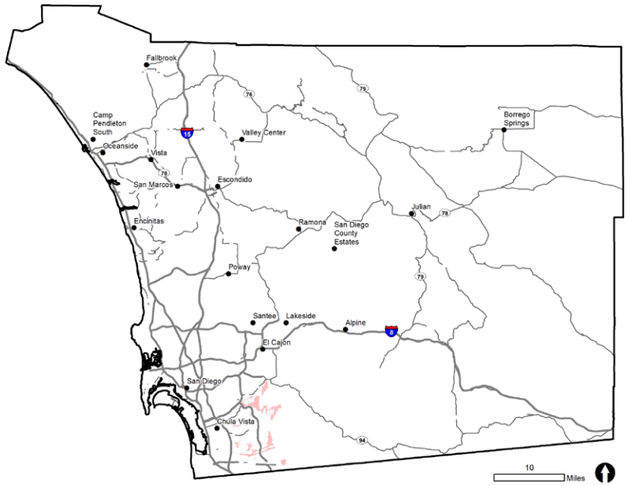
This data layer identifies potential habitat for the federally listed species Mexican flannelbush (*Fremontodendron mexicanum*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Mexican flannelbush critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Otay Tarplant

Description

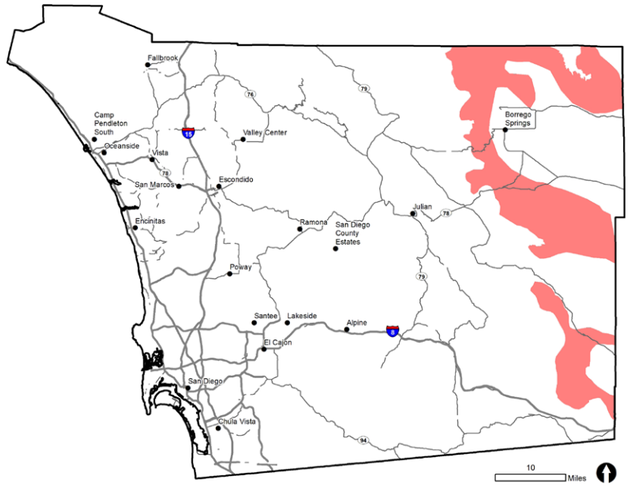
This data layer identifies potential habitat for the federally listed species Otay tarplant (*Deinandra conjugens*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Otay tarplant critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-2

Critical Habitat: Peninsular Bighorn Sheep

Description

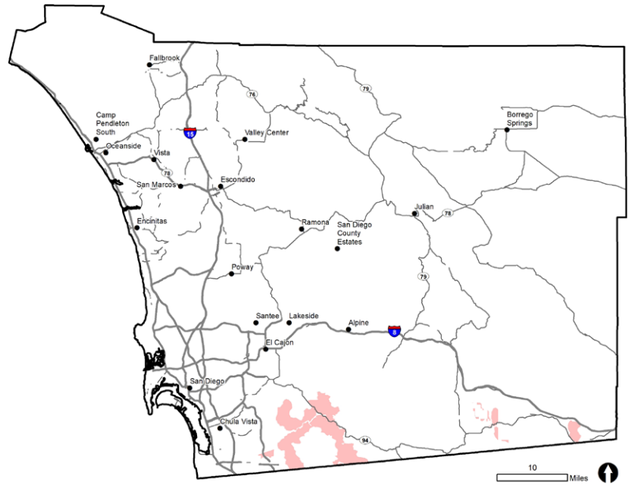
This data layer identifies potential habitat for the federally listed species peninsular bighorn sheep (*Ovis canadensis nelsoni*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Peninsular bighorn sheep critical habitat was given a low-moderate constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Quino Checkerspot Butterfly

Description

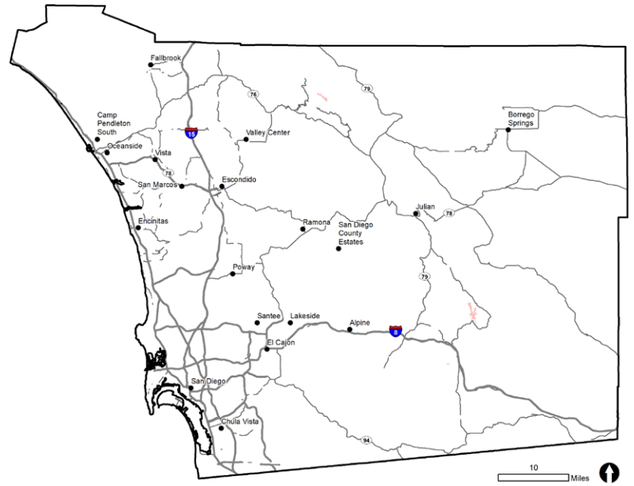
This data layer identifies potential habitat for the federally listed species Quino checkerspot butterfly (*Euphydryas editha quino*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Quino checkerspot butterfly critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: San Bernardino Bluegrass

Description

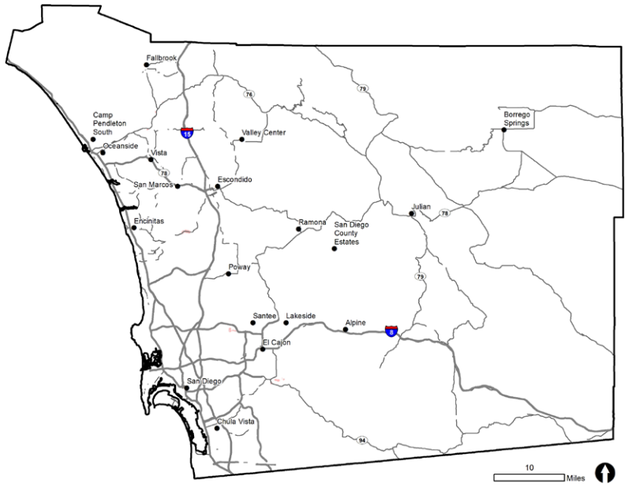
This data layer identifies potential habitat for the federally listed species San Bernardino bluegrass (*Poa atropurpurea*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

San Bernardino bluegrass critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: San Diego Ambrosia

Description

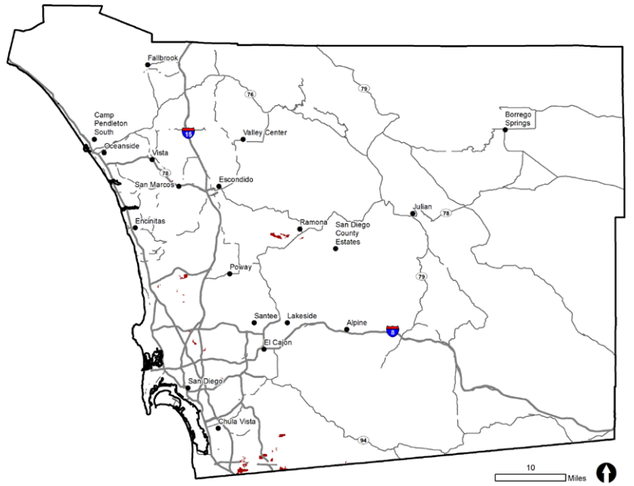
This data layer identifies potential habitat for the federally listed species San Diego ambrosia (*Ambrosia pumila*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

San Diego ambrosia critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-4

Critical Habitat: San Diego Fairy Shrimp

Description

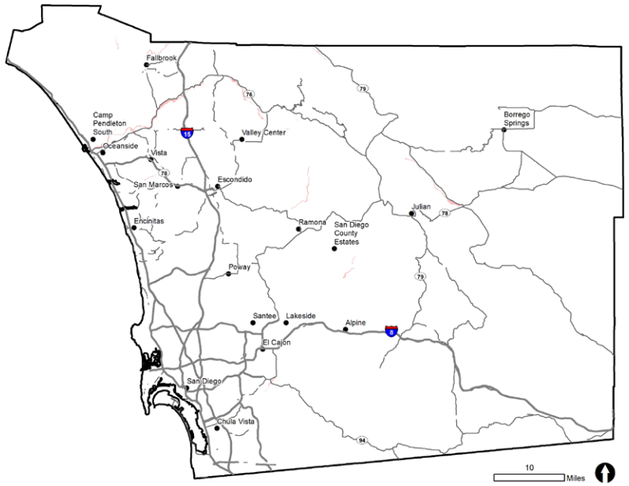
This data layer identifies potential habitat for the federally listed species San Diego fairy shrimp (*Branchinecta sandiegonensis*) to avoid impacts and incidental take under the Endangered Species Act. Areas included in San Diego fairy shrimp data are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

San Diego fairy shrimp critical habitat was given a high constraint because the species is likely to be present within its full range and would make OHV development challenging.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Southwestern Willow Flycatcher

Description

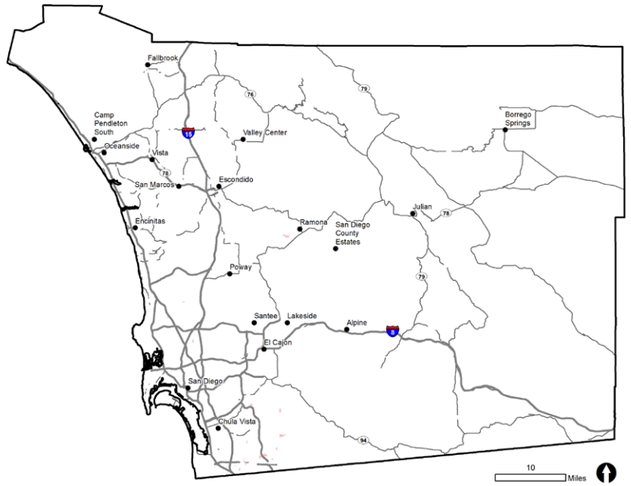
This data layer identifies potential habitat for the federally listed species southwestern willow flycatcher (*Empidonax traillii extimus*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Southwestern willow flycatcher critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Spreading Navarretia

Description

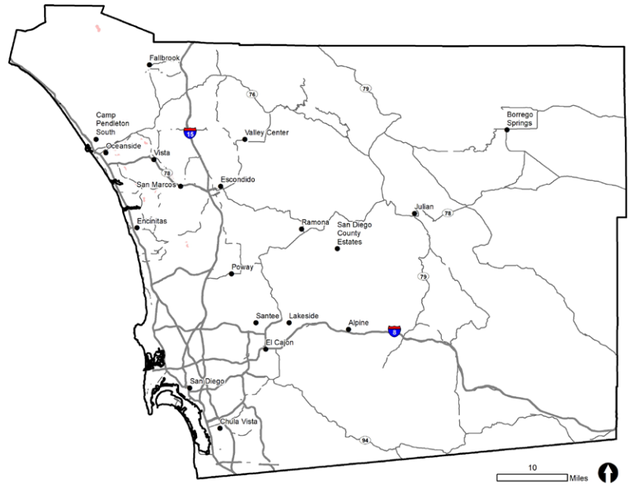
This data layer identifies potential habitat for the federally listed species spreading navarretia (*Navarretia fossalis*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Spreading navarretia critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Thread-Leaved Brodiaea

Description

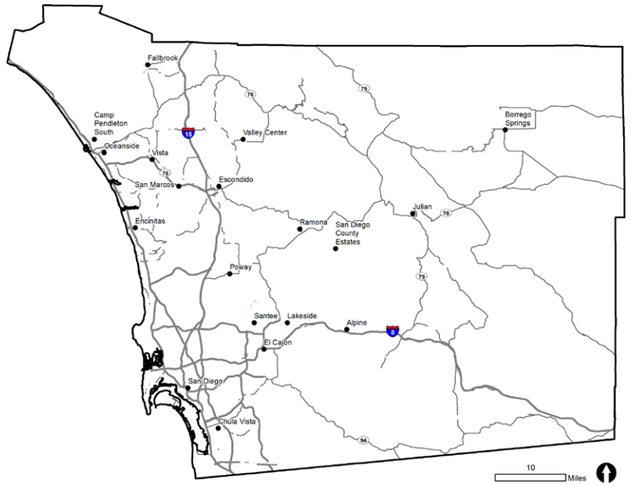
This data layer identifies potential habitat for the federally listed species thread-leaved brodiaea (*Brodiaea filifolia*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Thread-leaved brodiaea critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-1

Critical Habitat: Willowy Monardella

Description

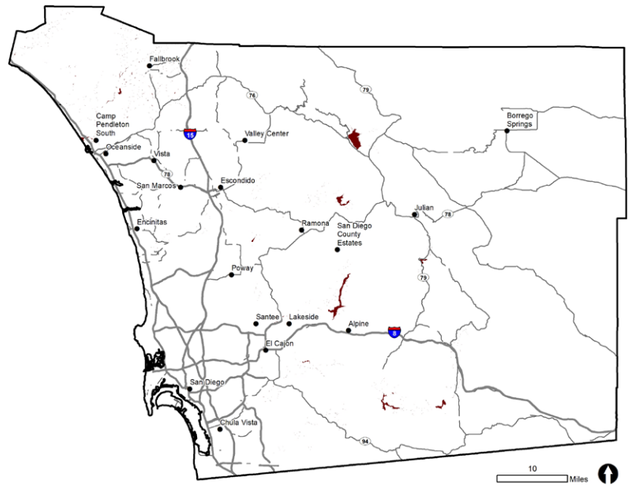
This data layer identifies potential habitat for the federally listed species willowy monardella (*Monardella viminea*) to avoid impacts and incidental take under the Endangered Species Act. These areas are not typically a strong constraint because they are designated over broad areas that may not actually support the species. The presence of the species on a potential site would require consultation with USFWS. If there is a federal nexus, the County will have to consult with USFWS as part of the project development process.

Weighting Logic

Willowy monardella critical habitat was given a low constraint because the species may not actually be present within its full range and can be evaluated in detail during later stages of site selection.

Source

USFWS 2023



Attribute	Weighting
Final Critical Habitat	-5

Waters that Support Rare, Threatened, and Endangered Species

Description

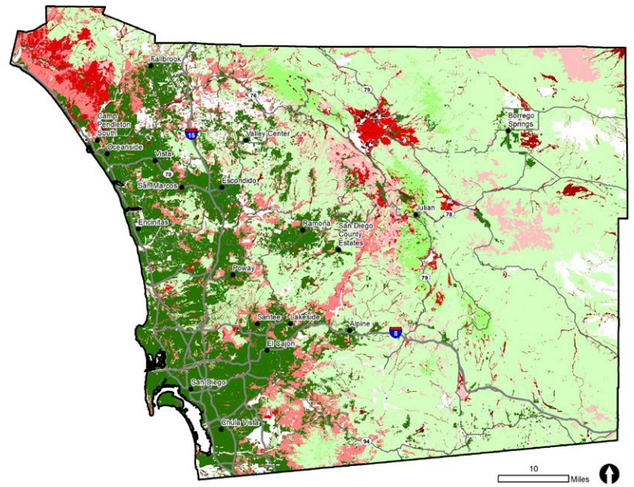
This data layer shows bodies of water that support habitats necessary for the survival and successful maintenance of plant or animal species established under state and/or federal law as rare, threatened, or endangered from 2018. The purpose of using this data is to avoid locating an OHV park in an area with waterbodies that support special-status species.

Weighting Logic

These waters were given a high constraint because OHV facilities should not affect waterbodies that provide habitat for threatened and endangered species.

Source

SANDAG 2022a



Attribute	Weighting
Agriculture	0
Alkali Playa Community	-4
Bog and Marsh	-5
Coastal Sage Scrub	-2
Disturbed or Developed Areas	5
Dune Community	0
Forest	2
Grasslands, Vernal Pools, Meadows, and Other Herb Communities	-5
Native Grassland, Meadow, or Broadleaf-Dominated	-3
Non-Native Grassland	5
Non-Native Woodland	5
Oak Woodland	-1
Pinon and/or Juniper Woodland	-1
Riparian and Bottomland Habitat	-4
Scrub and Chaparral	1
Vernal Pools, Wet Meadows, and Seeps	-5
Woodland Other	-1

Vegetation Communities

Description

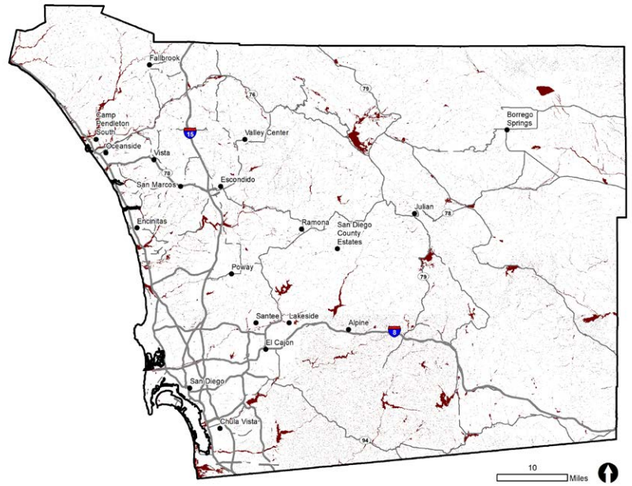
This data layer shows vegetation communities as classified by Holland (1986) throughout San Diego County. The purpose of these data is to locate an OHV park away from sensitive vegetation communities and look for opportunities to site an OHV park in disturbed or less sensitive vegetation communities. Groupings of vegetation communities were modified to be more relevant to this analysis. Specifically, the CATEGORY data field was modified to allow more classifications for grasslands and woodlands.

Weighting Logic

Sensitive wetland communities were given a high constraint value. Woodlands were given a low constrain value due to their rarity. Disturbed and non-native areas were given a high opportunity value. Scrub and chaparral were given a low positive value because of their ubiquity and potential compatibility with OHV use. Forested areas were given a low-moderate opportunity score because they may help reduce erosion in an OHV park and be compatible with OHV use. Agricultural and dune communities were given a 0 value because these areas may be suitable for OHV park development; however, the suitability of these vegetation communities must be evaluated within the context of a site and is not suitable to the Phase 1 overlay analysis.

Source

SANDAG 2022b



Attribute	Weighting
Freshwater Emergent Wetland	-5
Freshwater Forested/Shrub Wetland	-5
Freshwater Pond	-5
Lake	-5
Riverine	-5

Wetlands

Description

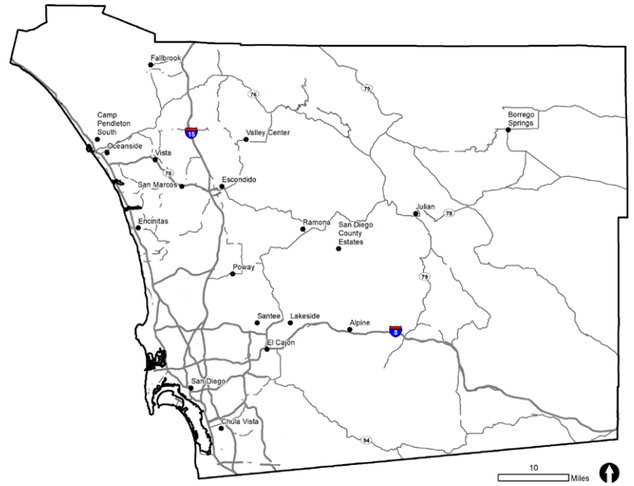
Nationwide, wetland data acquired from the USFWS's National Wetland Inventory and refined to just San Diego County. All wetland types should be protected from OHV activities and were given a high constraint value for this analysis.

Weighting Logic

All wetland types were given a high constraint value to avoid impacts associated with OHVs driving through sensitive wetland resources or building OHV facilities through them.

Source

SANDAG 2022c



Attribute	Weighting
No attribute	-1000

Vernal Pools

Description

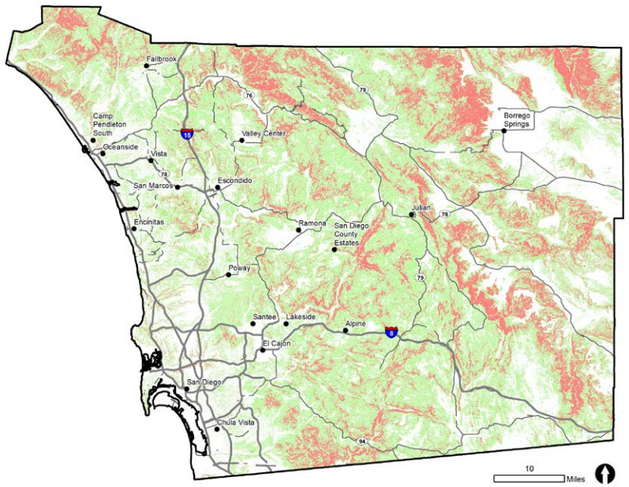
This dataset maps sensitive vernal pool habitat within the city of San Diego. The data provides an accurate account of vernal pool locations as well as rare venal pool plant and animal species. Plant species included in the inventory are Otay Mesa mint (*Pogogyne nudiuscula*), San Diego Mesa mint (*Pogogyne abramsii*), spreading navarretia, San Diego button-celery (*Eryngium aristulatum* var. *parishii*), and California Orcutt grass (*Orcuttia californica*). Invertebrate species included are Riverside fairy shrimp (*Streptocephalus wootonii*), and San Diego fairy shrimp.

Weighting Logic

Vernal pools and associated plant and animal species were weighted to exclude these areas from consideration for an OHV park because OHV use damages these sensitive habitats through sedimentation and erosion, especially during or after winter and spring rains.

Source

SANDAG 2015a



Attribute	Weighting
Slope less than 15% slope	0
Slope 15% to less than 25%	2
Slope 25% to less than 50%	1
Slope 50% or greater	-2

Slopes

Description

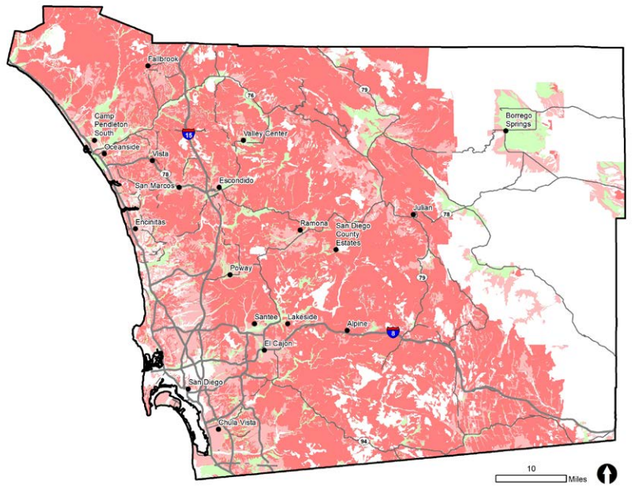
This data layer provides slope percentages for San Diego County that are classified into four ranges. These data identify areas suitable for OHV development at a coarse scale, and avoid locating OHV trails and other facilities in an area with very steep slopes, which can be more prone to erosion. Very steep slopes make trails and other facilities difficult to build and maintain. These data also help select areas that have some topographic interest for OHV users. More detailed assessments of site terrain will be conducted at the site scale during later project phases.

Weighting Logic

Steep slopes greater than 50% slope were given a moderate negative weighting. Steep slopes can be addressed with careful trail design; however, it would make trail development difficult and potentially costly. Moderate slopes were given moderate positive weights to identify areas that would be interesting for riding. Flat slopes were not weighted because they would not provide as much interest but could be developed into parking lots, skills courses, and other facilities needed for an OHV park.

Source

SANDAG 2005



Attribute	Weighting
Moderate	-1
Not rated	0
Severe	-2
Slight	2

Trail/Road Erosion Hazard

Description

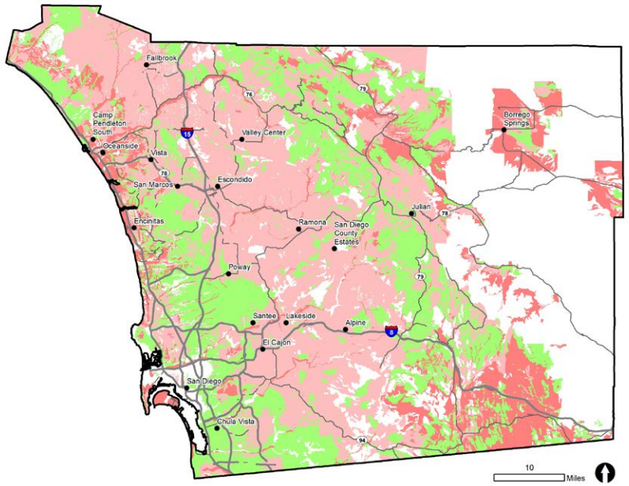
These data use erosion characteristics of soil classification identified in the Soil Survey Geographic Database (SSURGO) curated by the National Cooperative Soil Survey and Natural Resources Conservation Service (NRCS). Soil data are organized by map units with soil characteristics identified through field surveys and laboratory analysis. The purpose of these data is to avoid locating an OHV park in an area that is prone to trail and road erosion. Data do not exist for Anza Borrego State Park; however, Anza Borrego State Park is a conserved area and is excluded from consideration in this analysis.

Weighting Logic

Moderate to severe erosion potential was given low to moderate constraint weighting as soil type can constrain trail development; however, erosion can be addressed during site development. Slight erosion potential was given a low-moderate opportunity score to help select areas with lower erosion potential.

Source

NRCS 2012



Attribute	Weighting
<Null>	0
Low	2
Moderate	-1
Severe	-2

Wind Erosion Potential

Description

This data layer uses erosion characteristics of soil classification identified in SSURGO curated by the National Cooperative Soil Survey and NRCS. Soil data is organized by map units with soil characteristics identified through field surveys and laboratory analysis. The purpose of the data is to avoid locating an OHV park in an area that is prone to wind erosion and dust creation. Data do not exist for Anza Borrego State Park; however, Anza Borrego State Park is a conserved area and is excluded from consideration in this analysis.

Weighting Logic

Erosion potential was given low to moderate constraint weighting. Areas with severe wind erosion potential were given a moderate constraint due to concerns about fugitive dust. Slight erosion potential was given a low-moderate opportunity score to help select areas with lower erosion potential.

Source

NRCS 2012

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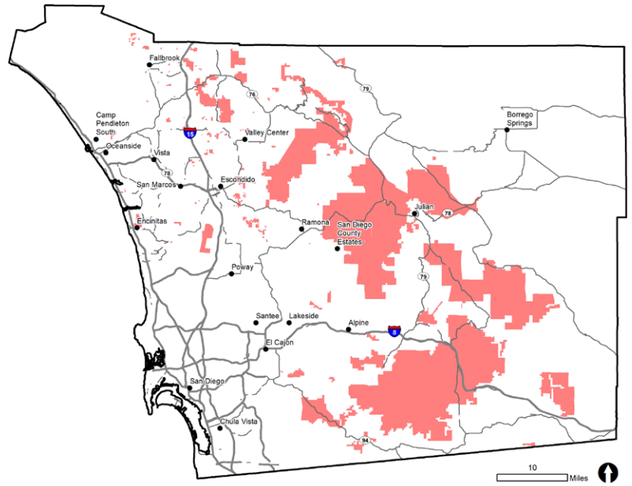


Attribute	Weighting
NA	-2

Agricultural Preserves

Description

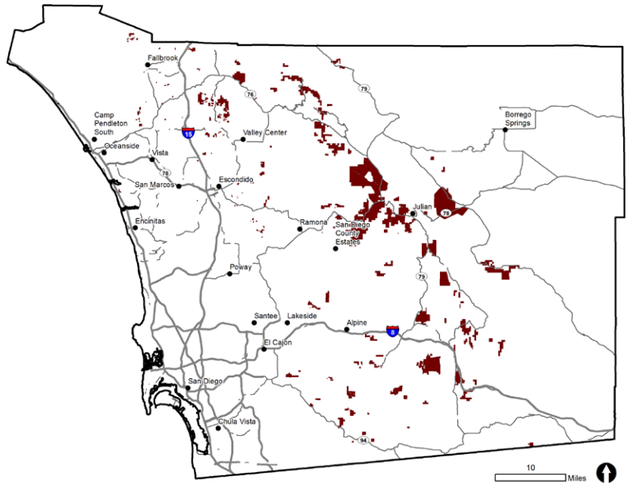
The California Land Conservation Act (Williamson Act) of 1965 is the State's primary tool for conserving agricultural lands. This legislation discourages the premature conversion of agricultural lands to urban uses by allowing cities and counties to enter 10-year contracts with private landowners to voluntarily restrict development on their lands. Contracts are automatically renewed unless the city/county or landowner requests a "Notice of Nonrenewal." Contracts are only possible within areas identified as agricultural preserves. Agricultural preserves identify areas prioritized for agricultural conservation; however, agricultural preserves cannot limit development without a contract in place.

Weighting Logic

Areas prioritized for agricultural preservation are given a low-moderate constraint weighting. An OHV park could be created in these areas; however, they have been identified for agricultural preservation. Without a contract in place, there is no legal restriction on developing an OHV park.

Source

SANDAG 2022d



Attribute	Weighting
NA	-5

Agricultural Preserve Contracts

Description

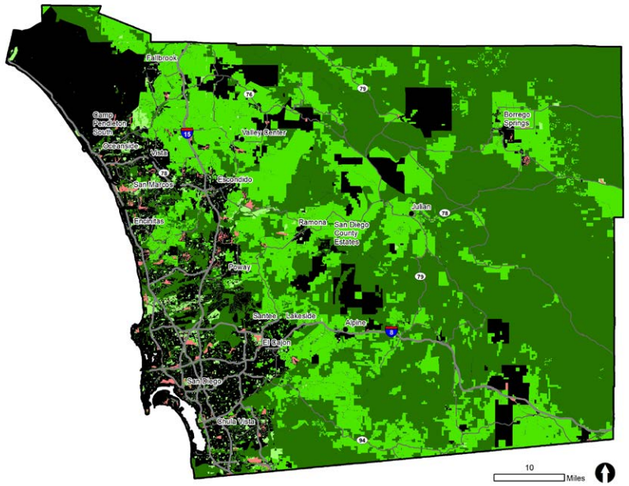
The Williamson Act is the State's primary tool for conserving agricultural lands. This legislation discourages the premature conversion of agricultural lands to urban uses by allowing cities and counties to enter 10-year contracts with private landowners to voluntarily restrict development on their lands. Contracts are automatically renewed unless the city/county or landowner requests a "Notice of Nonrenewal." Contracts are only possible within areas identified as agricultural preserves. Agricultural preserves identify areas prioritized for agricultural conservation; however, agricultural preserves cannot limit development without a contract in place.

Weighting Logic

Areas under contract for agricultural preservation are given a very high constraint weighting. An OHV park could be created in these areas; however, the landowner would need to terminate their contract to sell their land for OHV park development.

Source

SANDAG 2017



Attribute	Wtg	Attribute	Wtg
Ag–General	2	OS–Conservation	-1000
Com–Community	-1000	OS–Park	5
Com–Neighborhood	-1000	OS–Public Agency	-1000
Com–Office	-1000	OS–Residential	-1000
Com–Parking	-1000	P/SP Lands (Solid Waste Facility)	-1000
Com–Regional	-2	P/SP Facilities	2
Com–Visitor	-2	Res–Mixed-Use	-1000
Indian Reservation	-1000	Res–Multiple Unit	-1000
Industrial–Heavy	4	Res–Single Unit	-1000
Industrial–Light	3	Res–Spaced Rural	3
Industrial–Park	2	Transportation	-1000
Infrastructure	-1000	Waterbodies	-1000
Military	-1000	–	–

Abbreviations

Ag	Agriculture
Com	Commercial
OS	Open Space
P/SP	Public/Semi-Public
Res	Residential

Planned Land Use

Description

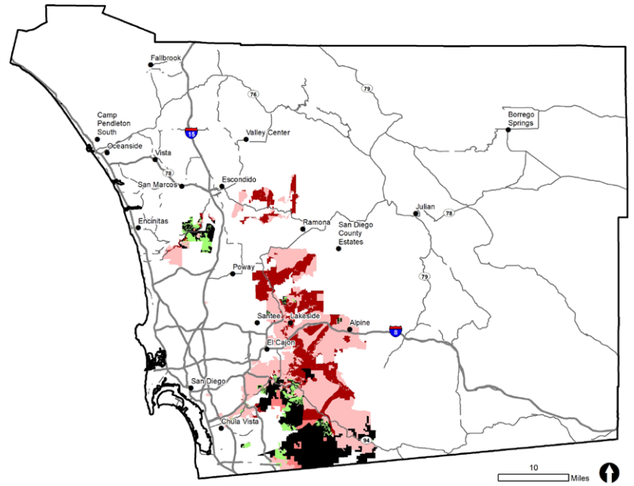
This layer provides aggregated land use planning data for all general pans and community plans throughout San Diego County. Because individual plans have their own land use category naming conventions, this layer cross-walked individual plans and merged similar land use types across jurisdiction boundaries. The purpose of this layer is to make sure an OHV park conforms with desired uses and development types within the county. Because of the large number of land use categories in this dataset, some categories were combined if reducing the detail of the data did not affect decisions for siting an OHV park.

Weighting Logic

Weighting prioritized land for OHV park development that is away from areas planned for dense urban development and within plan areas more suitable for active OHV recreation. The Open Space–Public Agency category was given a 0 weight in case there is an opportunity for a land deal or joint use.

Source

SANDAG 2014



Attribute	Weighting
Conserved Subject to Agreement with Wildlife Agencies	-1000
Hardline Preserve	-1000
Major Amendment Area	-2
Minor Amendment Area	-1
Minor Amendment Area Subject to Special Considerations	-1
Otay Ranch Areas Where no Take Permits will be Issued	-1000
Pre-Approved Mitigation Area	-4
Santa Fe Valley 'D' Designator	-1
Santa Fe Valley Open Space II	-3
Take Authorized Area	2
Unincorporated Land in Metro-Lakeside-Jamul Segment	-1

South County Multi-Species Habitat Conservation Program

Description

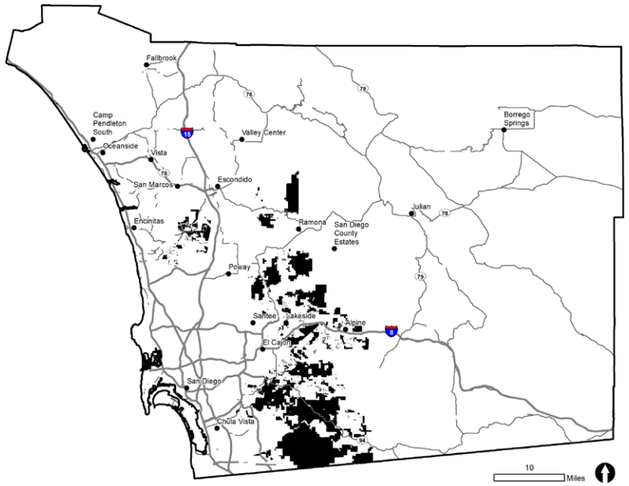
The County of San Diego adopted a multi-species habitat conservation program (MSCP) in 1997 to design a preserve system to conserve biological diversity and protect key sensitive plant and animal species. The MSCP designates open space and protected lands while reducing the need to list species as endangered under state and federal endangered species acts. The MSCP also reduces the permitting effort required for take under the Endangered Species Act for landowners. The purpose of using the data is to avoid locating an OHV park in an area planned for conservation. There are also possible benefits if an OHV park is in an area planned for take coverage, reducing the permit burden on the project. The South County MSCP is the only conservation plan that has been adopted by the County.

Weighting Logic

Existing preserves were removed from consideration. Areas with high conservation value that are planned for mitigation were given a high constraint rating. Areas with lower conservation priority were given a low constraint value. Lands with take authorization were given a low-moderate opportunity value because they would facilitate OHV development.

Source

SANDAG 2022e



Attribute	Weighting
MSCP_SouthCo_HABITRAK (GAINPRESS)	-1000

South County MSCP HABITRAK

Description

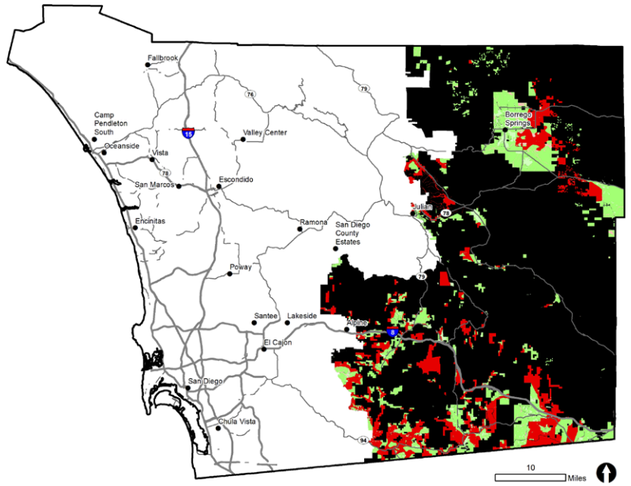
HABITRAK is a GIS accounting tool used for tracking loss and gain of habitat from development. It shows land that has been dedicated in fee title or covenant of easement for conservation purposes. The purpose of this data layer is to avoid locating an OHV park in an area that has already been designated as a property acquisition for conservation purposes. HABITRAK areas may overlap with MSCP Pre-Approved Mitigation Areas, which results in a compounded negative value—higher negative values for areas of overlap were considered acceptable.

Weighting Logic

These areas have been removed from consideration because HABITRAK gain areas have been set aside for siting mitigation projects and are not suitable for locating an OHV park.

Source

SANDAG 2022f



Attribute	Weighting
Rancho Ejido	-1000
Agriculture or Natural Upland outside FCA	2
Agriculture or Natural Upland within FCA	-3
Baseline Preserve	-1000
Developed Lands	1
RMS 1—Highest Level of Eco. Protection	-1000
RMS 2—Land managed with Eco. Protection	-1000
RMS 3—Land managed as Open Space	-1000
RMS 4—Other Public/Semi-Public Lands	-1000
R/W HT Zone outside FCA	-1
R/W HT Zone within FCA	-3
Tribal Lands	-1000

Abbreviations

Eco. Ecology
R/W HT Riparian/Wetland Habitat and Transition

Preliminary East County Multi-Species Habitat Conservation Program

Description

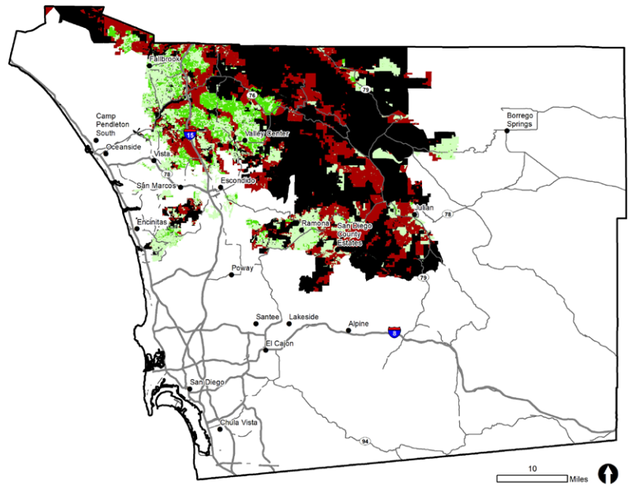
The County of San Diego adopted an MSCP in 1997 to design a preserve system to conserve biological diversity and protect key sensitive plant and animal species. The MSCP designates open space and protected lands while reducing the need to list species as endangered under state and federal endangered species acts. The MSCP also reduces the permitting effort required for take under the Endangered Species Act for landowners. The purpose of using the data is to avoid locating an OHV park within an area planned for conservation. The East County MSCP is still under development, and all conservation designations are tentative, which still provide value for locating an OHV park outside of areas of high conservation value. The North County MSCP, also under development, supersedes East County MSCP where planning areas overlap. Draft data were provided by ICF and are subject to change.

Weighting Logic

Existing preserves were removed from consideration. Areas with high conservation value that are planned for mitigation were given a high constraint rating. Areas with lower conservation priority were given a low constraint value.

Source

County of San Diego



Attribute	Weighting
Pending Development Areas	0
City	-1000
District	-1000
Existing MSCP Preserves	-1000
Federal	-1000
Other	-1000
Outside PCA–Natural Habitat	1
Outside PCA–Agriculture	3
Outside PCA–Urban/Developed	1
Pending MSCP Preserves	-1000
Priority Conservation Area (PCA)	-4
Rancho Geujito	-1000
State	-1000
Tribal Land	-1000

Preliminary North County Multi-Species Habitat Conservation Program

Description

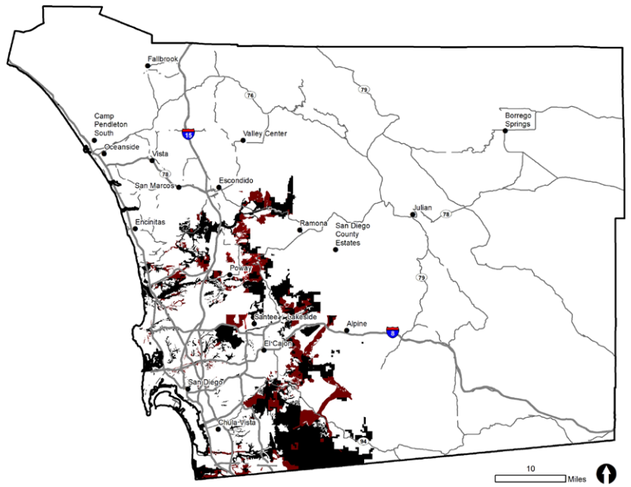
The County of San Diego adopted an MSCP in 1997 to design a preserve system to conserve biological diversity and protect key sensitive plant and animal species. The MSCP designates open space and protected lands while reducing the need to list species as endangered under state and federal endangered species acts. The MSCP also reduces the permitting effort required for take under the Endangered Species Act for landowners. The purpose of using the data is to avoid locating an OHV park within an area planned for conservation. The North County MSCP is still under development, and all conservation designations are tentative, which still provide value for locating an OHV park outside of areas of high conservation value. The North County MSCP supersedes the East County MSCP where planning areas overlap. Draft data were provided by ICF and are subject to change.

Weighting Logic

Existing preserves were removed from consideration. Areas with high conservation value that are planned for mitigation were given a high constraint rating. Areas with lower conservation priority were given a low constraint value.

Source

County of San Diego



Attribute (% Area Conserved)	Weighting
30	-4
50	-4
70	-5
75	-5
80	-5
90	-1000
94	-1000
100	-1000

Multi-Habitat Planning Area

Description

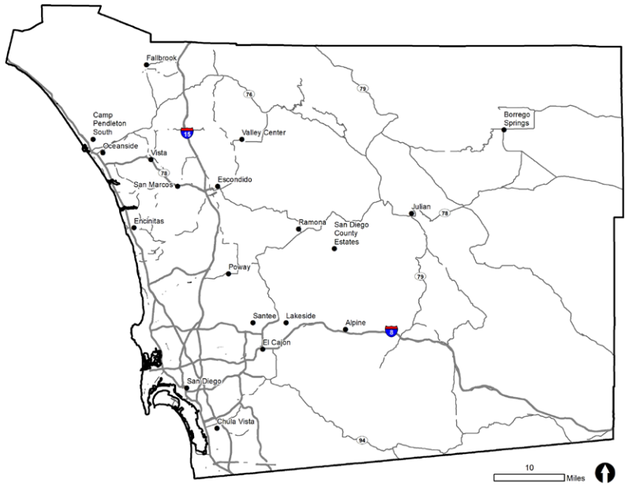
The County of San Diego adopted an MSCP in 1997 to design a preserve system to conserve biological diversity and protect key sensitive plant and animal species. The MSCP designates open space and protected lands while reducing the need to list species as endangered under state and federal endangered species acts. The MSCP also reduces the permitting effort required for take under the Endangered Species Act for landowners. The purpose of using the data is to avoid locating an OHV park within an area planned for conservation. The Multi-Habitat Planning Area is planned preservation areas in the city of San Diego and surrounding incorporated areas. These areas provide value for locating an OHV park outside areas of high conservation value.

Weighting Logic

Areas with a proposed percentage of area conserved between 100% and 90% were excluded from consideration. Areas with a proposed percentage of area conserved between 80% and 70% were given a very high constraint value. Areas with a proposed percentage of area conserved between 30% and 50% were given a high constraint value.

Source

SANDAG 2024



Attribute	Weighting
No attribute	-1000

City of San Diego Public Utilities Department Habitat Mitigation Sites

Description

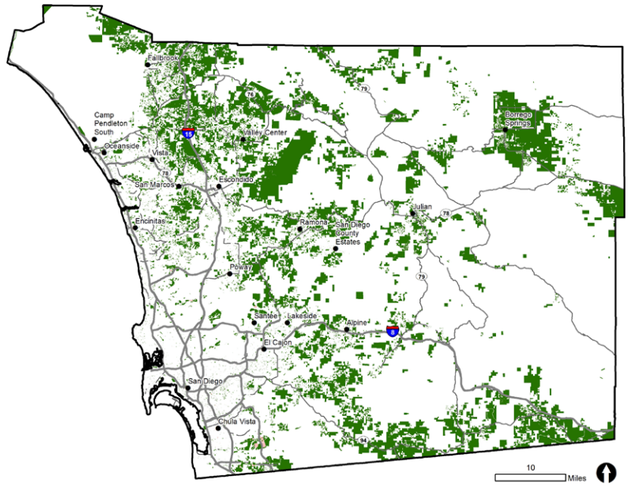
Existing habitat mitigation sites that are associated with the City of San Diego Public Utilities Department. The purpose of the data is to avoid locating an OHV park in an existing mitigation site that is being conserved.

Weighting Logic

Mitigation areas were excluded from consideration because they are not available for development.

Source

SANDAG 2015b



Attribute	Weighting
Agricultural Redevelopment	5
Vacant Developable	5
Vacant Developable Mixed Use	-1

Developable Land

Description

This data layer includes land within San Diego County that is under private ownership and is suitable for development. The purpose of the data is to highlight areas that are available for developing an OHV park.

Weighting Logic

Areas designated for agricultural redevelopment and vacant development were given a high opportunity weighting to help select areas suitable for developing an OHV park. Areas designated for mixed-use development were given a low constraint weighting to avoid locating an OHV park where mixed-use development is planned.

Source

SANDAG 2015c

4.3 Phase 1 Overlay Analysis

Section 4.1, *Phase 1 Site Selection Process*, provides a summary of the overlay methodology used to create the composite layer containing final scores (**Figure 4-2**).

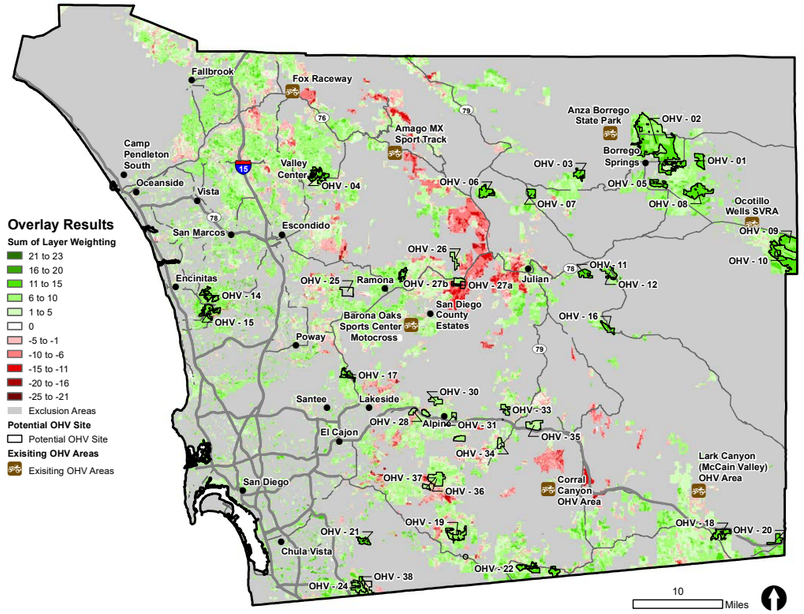


Figure 4-2. Aggregate Opportunity and Constraints Composite Map Created through the Overlay Process

4.4 Site Prioritization and Initial Selection

After completing the GIS overlay analysis, the project team identified areas of high-scoring grid cells as potential sites for further examination. These areas underwent a detailed review of the underlying GIS layers to gain a better understanding of the specific opportunities and constraints associated with each potential site.

After completing the GIS overlay analysis, the project team identified areas of high-scoring grid cells as potential sites for further examination.

Additionally, the team considered factors that were not part of the GIS analysis but were vital for OHV development, such as site access, proximity to OHV users, proximity to existing OHV facilities, priorities determined through public outreach, and any other known challenges or constraints identified by DPR.

The following subsections describe the process by which the initial potential sites were evaluated and refined.

Phase 1: Round 1 Site Selection—County-Wide Prioritization

The final composite grid layer was queried to identify grid cells with a minimum composite score of 10 and at least 500 acres of contiguous area. This process identified 24 potential site locations (OHV-01 through OHV-24 shown on **Figure 4-3**).

The site polygons were cleaned up to reduce irregularities and odd geometry, leading to minor overlaps with constraint layers, which were addressed at a later project phase. Refined site polygons were then "intersected" with individual

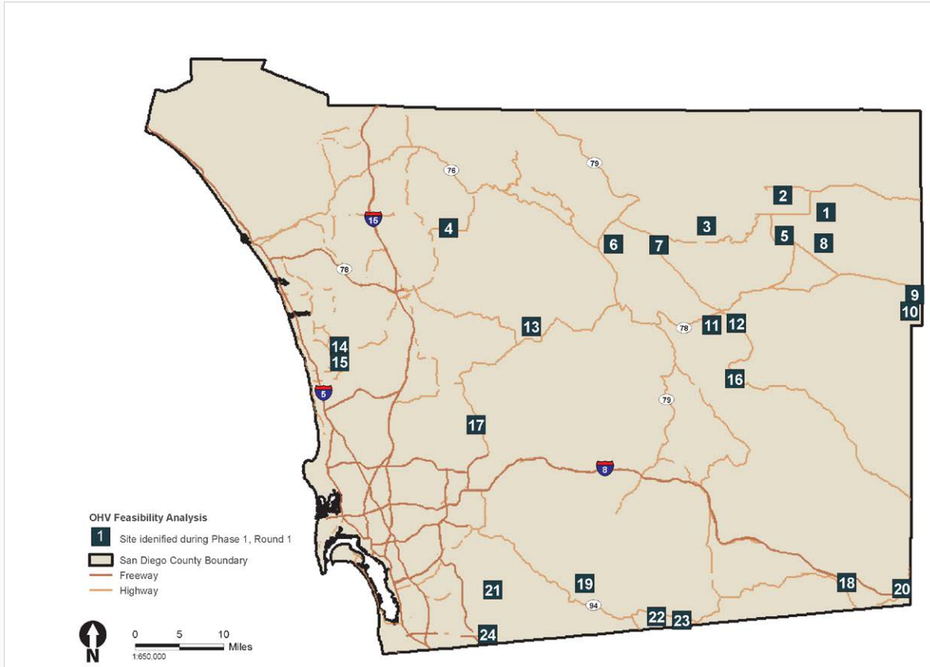


Figure 4-3. Initial Potential 24 Site Locations

overlay layers in the GIS model to create a clear list of specific opportunities and constraints at each site. For example, if a site overlapped with critical habitat for a special-status species it was identified through this process.

In addition to the GIS-based analysis, each site was reviewed manually by the project team and County staff consisting of park rangers, MSCP staff, real estate staff, and other DPR employees knowledgeable about OHV use, political issues, and specific geographic areas. This step included a desktop review in Google Earth of each site, review of County planning records and conservation data, and site visits conducted by County staff.

Phase 1, Round 1 included a GIS-based analysis and manual review by individuals with knowledge about OHV use, political issues, and specific geographic areas.

From these 24 potential sites, DPR selected 12 sites for further review. These sites were OHV-03, OHV-06, OHV-07, OHV-08, OHV-09, OHV-11, OHV-16, OHV-17, OHV-18, OHV-19, OHV-20, and OHV-24. These sites are shown on **Figure 4-4**.

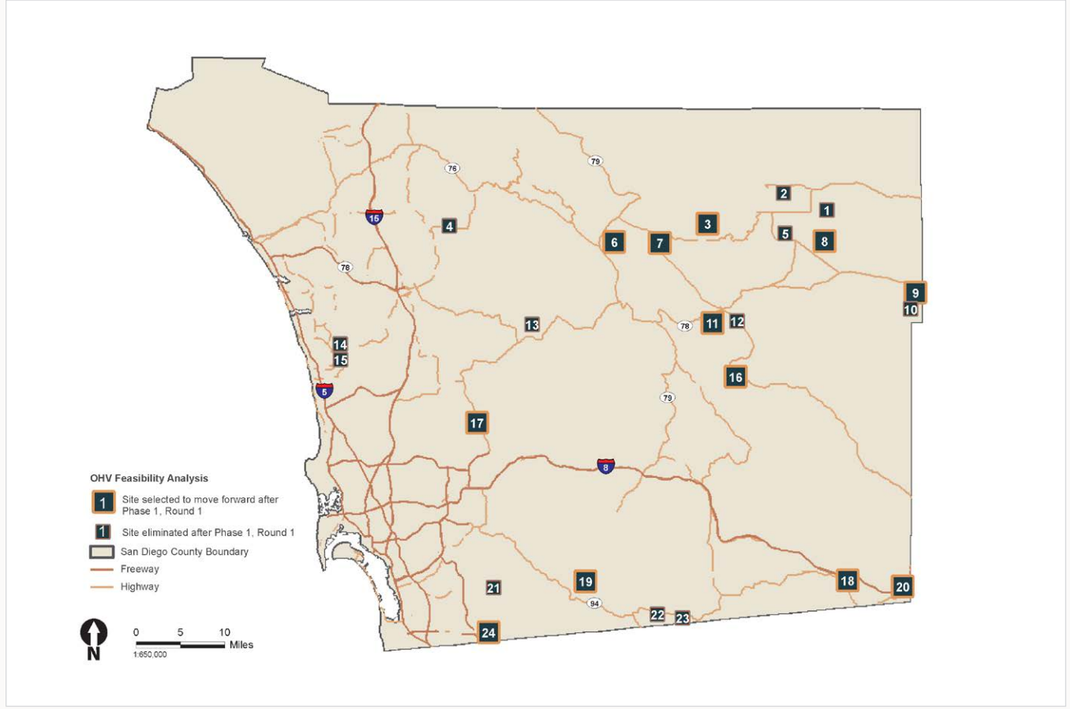


Figure 4-4. Phase 1, Round 1 Results

Phase 1: Round 2 Site Selection—Proximity to OHV Users

Public outreach feedback on the 12 selected sites indicated there were not enough options located near where most OHV users reside. Public comment suggested that the team look for opportunities near Ramona and along the I-8 corridor between Alpine and Pine Valley. The criteria initially used to identify viable sites were (1) areas with a minimum composite score of 10 and (2) at least 500 acres of contiguous area. These criteria were modified to define a viable site as having (1) a minimum composite score of 5 and (2) at least 300 acres of contiguous area.

This process identified 14 additional sites, including several in the Ramona and Alpine/Pine Valley regions (OHV-25 through OHV-38 shown in **Figure 4-2**). These new sites were manually reviewed using the same process described for the Round 1 selection.

Of the additional 14 potential sites, DPR selected 8 sites for further review. These sites were OHV-26, OHV-27, OHV-28, OHV-33, OHV-34, OHV-35, OHV-37, and OHV-38. When added to the Round 1 sites, these new sites created a total of 20 potential sites that would move forward for further consideration (**Figure 4-5**).

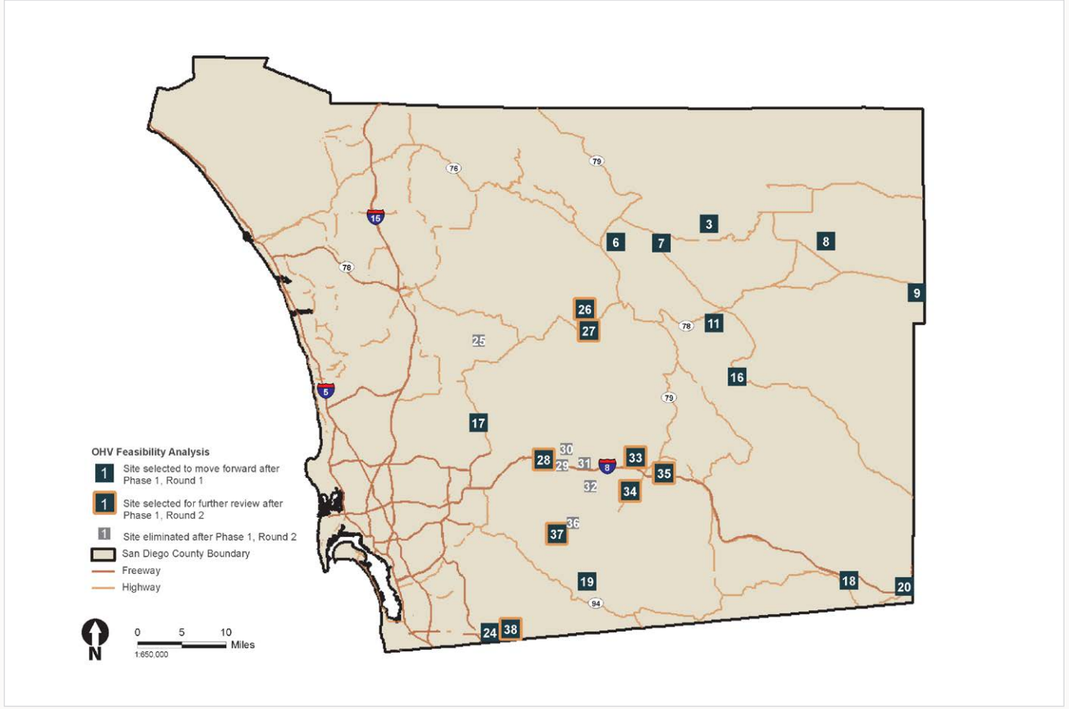


Figure 4-5. Phase 1, Round 2 Results

Phase 1: Round 3 Site Selection—Willing Seller Letters and Phase 2 Site Selection

DPR performed a final review to further narrow the list of sites, selecting 10 of the 20 sites identified in Rounds 1 and 2 to subject to a "willing seller" process to gauge owners' interest in selling their property for the purpose of creating an OHV park. Sites OHV-17, OHV-19, OHV-24, OHV-27, OHV-28, OHV-34, OHV-35, OHV-36, OHV-37, and OHV-38 were selected for this process.

DPR conducted a "willing seller" process to gauge owners' interest in selling their property for the purpose of creating an OHV park.

DPR used its GIS parcel database to identify the 147 property owners associated with these sites and sent letters to them. Letters were sent in early December 2023 and responses were collected via mail, email, and phone conversations until results were finalized in mid-March 2024.

DPR received 21 responses to the willing seller letters. Based on responses received, DPR decided to remove OHV-27 and OHV-36 from further consideration. The results of the willing seller letters for sites OHV-37, OHV-28, and OHV-34 limited the feasibility of OHV park development at these sites: however, they remained viable and were not eliminated from further consideration. Willing seller responses did not significantly affect the viability of sites OHV-17, OHV-19, OHV-24, OHV-38, and OHV-35. The boundaries of sites OHV-28 and OHV-34 were modified to avoid parcels with negative responses to willing seller letters and parcels that were owned by Endangered Habitats Conservancy and managed as conserved habitat.

20 sites from Round 2 − **11** sites eliminated from "willing seller" letter process − **1** sites eliminated from "willing seller" letter responses = **8** sites continuing to next round

Figure 4-6 shows the results of this round.

Phase 1: Round 4 Site Selection—Northern County Land Offer

DPR was contacted by a landowner in February 2024 who was interested in selling his 375-acre property. The landowner became aware of DPR's interest in purchasing property for the development of an OHV park through public outreach efforts. The property is in northern San Diego County on State Route 79 between Temecula and Warner Springs. The landowner identified the following reasons that his property should be included in the study.

In 2024, a landowner contacted DPR to request that his property in northern San Diego be included in the study.

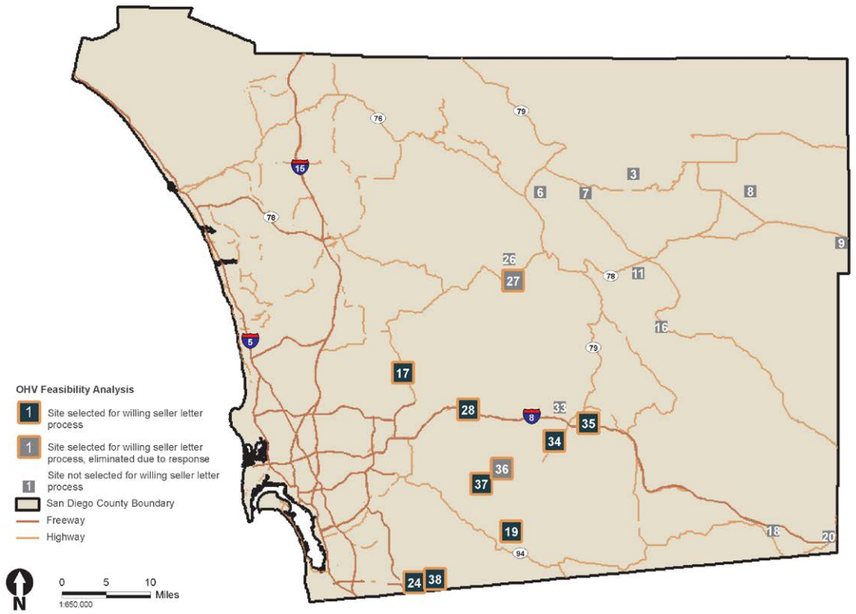


Figure 4-6. Phase 1, Round 3 Results

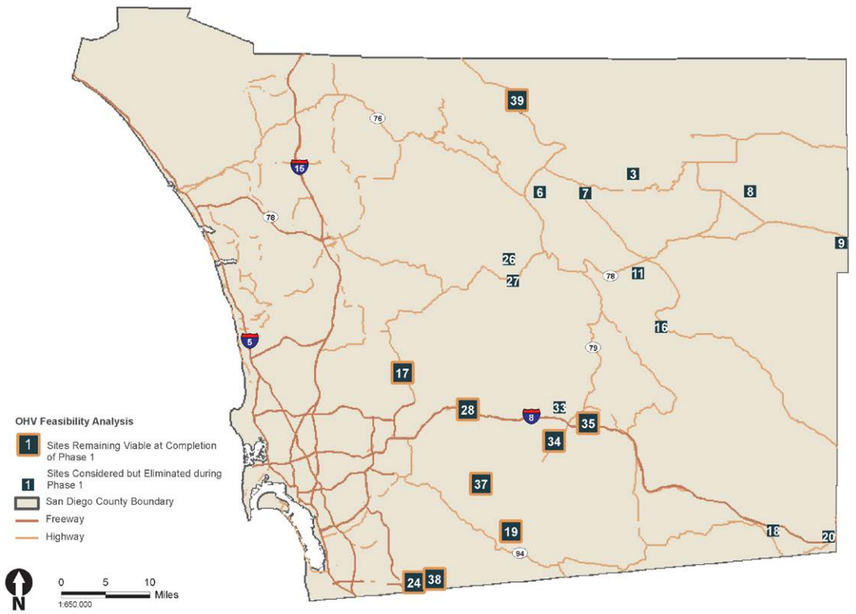


Figure 4-7. Phase 1, Round 4 Results

- Adjacency to public lands including Cleveland National Forest and Bureau of Land Management lands.
- Opportunities for connecting the Puerta La Cruz Truck Trail to the Palomar Divide Truck Trail.
- 1,000 feet of topographic change conducive to OHV activities.
- Proximity to a flourishing OHV community in nearby Temecula.
- Adjacent supporting facilities, including a gas station, convenience store, and fire station, as well as nearby hotels and wineries.
- Proximity to disadvantaged communities that would benefit from economic growth from an OHV park.

DPR did not prioritize OHV park development in the far northern portion of the county where this site is located but acknowledges many of the benefits described by the landowner as well as the opportunity to work with a willing seller. Therefore, the property was added to the list of sites being considered. The consultant team labeled this site OHV-39 (**Figure 4-7,** *previous page*) and used the same criteria to evaluate it as was used for the other Phase 1 sites.

Final Phase 1 Site Selection

8 sites from Round 3 + **1** site added from Sunshine Land Summit = **9** sites continuing to Phase 2

At the completion of the Phase 1 process, nine sites remained on the list of potentially viable sites for an OHV park: OHV-17, OHV-19, OHV-24, OHV-28, OHV-34, OHV-35, OHV-37, OHV-38, and OHV-39 (**Figure 4-8**). These nine sites advanced into Phase 2 of the site evaluation and selection process, which is discussed in Chapter 5, Phase 2 Site Selection.

A summary of key evaluation criteria for all the Phase 1 sites is provided in **Table 4-3**.

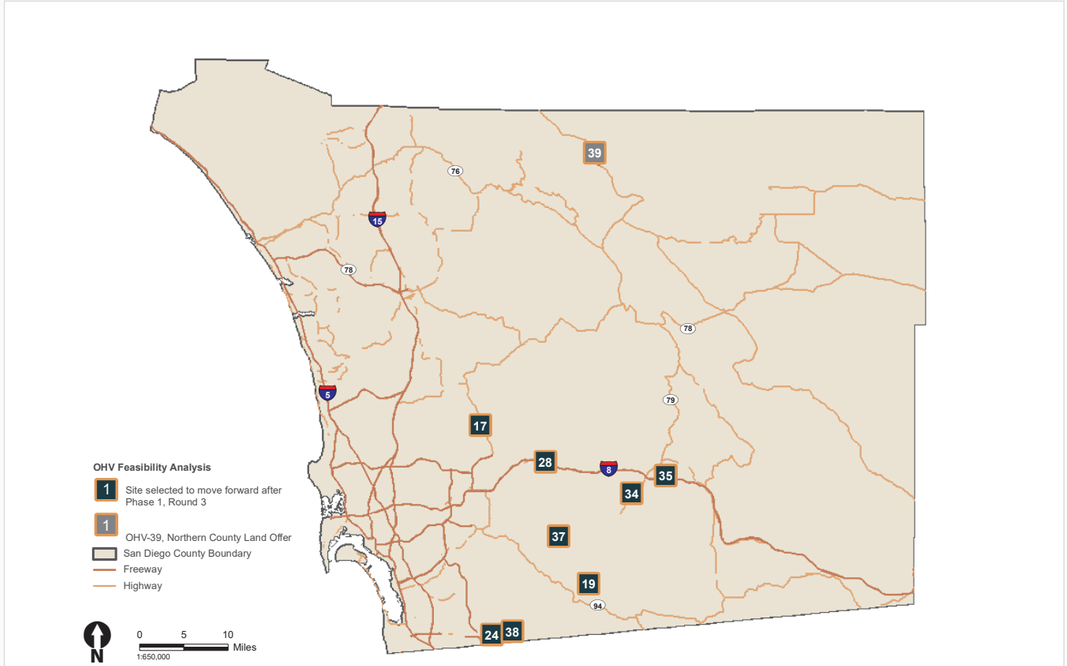


Figure 4-8. OHV Sites Considered Viable at the Completion of Phase 1 Analysis

Selection	Site ID	Size (Acres)	GIS Score Statistics (Min., Max., Avg., Sd.)	No. Parcels/ Owners	Drive Time for OHV Users*	% Developable Land	Planning/Land Use	Vegetation (>1% Area)	Critical Habitats	Primary Opportunities	Primary Constraints	Initial Ranking	Reason(s) for Selection/Exclusion
○	OHV-01	745	2, 13, 11, 1.2	11/7	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Lower ecological sensitivity Undeveloped land	Close to Ocotillo Wells SVRA Distant from OHV users No existing access	Low Potential	Distance from OHV users and proximity to existing OHV facilities
○	OHV-02	10,000	0, 18, 11, 2.0	536/325	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Existing access Lower ecological sensitivity	Close to Ocotillo Wells SVRA Distant from OHV users Large number of landowners Potentially incompatible adjacent land uses	Low Potential	Large number of landowners and incompatible adjacent land uses
◐	OHV-03	594	1, 16, 11, 1.3	25/19	1 Hour 45 Minutes	100% Vacant Developable	100% Residential–Spaced Rural	99% Scrub and Chaparral, 1% Water	None	Existing access Interesting terrain Lower ecological sensitivity	Distant from OHV users Potentially incompatible adjacent land uses	Moderate Potential	Interesting terrain with lower ecological sensitivity
○	OHV-04	1,078	0, 17, 11, 2.1	262/224	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access	Existing development Large number of landowners Potentially incompatible adjacent land uses	Low Potential	Incompatible adjacent land uses, existing development, and large number of landowners
○	OHV-05	686	2, 15, 11, 1.3	75/60	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Existing access Lower ecological sensitivity	Distant from OHV users Potentially incompatible adjacent land uses Uninteresting terrain	Low Potential	Incompatible adjacent land uses and distant from OHV users
◐	OHV-06	962	0, 16, 11, 1.2	32/12	1 Hour 30 Minutes	99% Vacant Developable	100% Residential–Space Rural	97% Scrub and Chaparral, 1% Oak Woodland, 1% Disturbed or Developed Areas	None	Existing access Interesting terrain Lower ecological sensitivity	Distant from OHV users Limited areas for parking and other non-trail facilities	Moderate Potential	Interesting terrain with lower ecological sensitivity
◐	OHV-07	507	0, 16, 11, 1.3	22/14	1 Hour 30 Minutes	99% Vacant Developable	99% Residential–Spaced Rural, 1% Transportation	95% Scrub and Chaparral, 5% Oak Woodland	None	Existing access Interesting terrain Lower ecological sensitivity	Distant from OHV users Sensitive species and habitats	Moderate Potential	Interesting terrain with lower ecological sensitivity
◐	OHV-08	1,777	1, 15, 11, 1.1	39/27	2 Hours	99% Vacant Developable	100% Residential–Space Rural	95% Scrub and Chaparral, 3% Dune Community	None	Interesting terrain Lower ecological sensitivity	Distant from OHV users Limited existing access	Moderate Potential	Interesting terrain with lower ecological sensitivity
◐	OHV-09	1,721	2, 13, 11, 1.1	13/10	2 Hours 20 Minutes	97% Vacant Developable	100% Residential–Space Rural	64% Scrub and Chaparral, 36% Dune Community	None	Interesting terrain Lower ecological sensitivity	Close to Ocotillo Wells SVRA Distant from OHV users Limited existing access	Moderate Potential	Interesting terrain with lower ecological sensitivity
○	OHV-10	2,447	1, 18, 11, 1.6	271/195	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Lower ecological sensitivity	Close to Ocotillo Wells SVRA Distant from OHV users Large number of landowners Potentially incompatible adjacent land uses	Low Potential	Incompatible adjacent land uses, distance from OHV users, and large number of landowners

SELECTION KEY

- ○ Site initially identified in Phase 1 but excluded from further analysis in Phase 1
- ◐ Sites eliminated from consideration during Phase 1 analysis
- ● Sites selected to advance to the Phase 2 analysis

NOTE

* OHV drive time is measured from zip code 91911, near Chula Vista, which has the highest density of OHV registrations.

Table 4-3. Phase 1 Site Summary Table

Selection	Site ID	Size [Acres]	GIS Score Statistics [Min., Max., Avg., Sd.]	No. Parcels/ Owners	Drive Time for OHV Users*	% Developable Land	Planning/Land Use	Vegetation [>1% Area]	Critical Habitats	Primary Opportunities	Primary Constraints	Initial Ranking	Reason(s) for Selection/Exclusion
◐	OHV-11	622	0, 16, 12, 1.3	28/13	1 Hour 40 Minutes	100% Vacant Developable	100% Residential–Space Rural, 2.8 Ac. Agricultural Preserve, 1.5 Ac. Agricultural Preserve Contract	99% Scrub and Chaparral	None	Interesting terrain Lower ecological sensitivity	Distant from OHV users Limited existing access	Moderate Potential	Interesting terrain with lower ecological sensitivity
○	OHV-12	903	0, 19, 12, 2.6	410/313	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Existing access Lower ecological sensitivity	Distant from OHV users Large number of landowners Potentially incompatible adjacent land uses Uninteresting terrain	Low Potential	Incompatible adjacent land uses, existing development, and large number of landowners
○	OHV-13	513	0, 17, 11, 2.5	332/237	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access Lower ecological sensitivity	Existing development Large number of landowners Potentially incompatible adjacent land uses	Low Potential	Incompatible adjacent land uses, existing development, and large number of landowners
○	OHV-14	813	0, 20, 11, 2.4	380/344	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access	Existing development Large number of landowners Potentially incompatible adjacent land uses Sensitive species and habitats	Low Potential	Incompatible adjacent land uses, existing development, and large number of landowners
○	OHV-15	987	0, 18, 12, 2.3	466/397	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access	Existing development Large number of landowners Portion of site planned for conservation Potentially incompatible adjacent land uses	Low Potential	Incompatible adjacent land uses, existing development, and large number of landowners
◐	OHV-16	517	0, 18, 12, 1.9	121/35	1 Hour 50 Minutes	84% Vacant Developable	98% Residential–Spaced Rural, 2% Transportation, ~9 Ac. In ECMSCP	81% Scrub and Chaparral, 14% Disturbed or Developed Areas, 3% Non-Native Grassland, 1% Water	None	Existing access Lower ecological sensitivity	Bisected by highway Distant from OHV users Potentially incompatible adjacent land uses	Moderate Potential	Lower ecological sensitivity
●	OHV-17	597	0, 16, 12, 2.5	66/25	35 Minutes	96% Vacant Developable, 1% Agricultural Redevelopment	76% Industrial–Light, 21% Residential–Spaced Rural, 16% SCMSCP (Unincorporated Land Metro-Lakeside-Jamul)	64% Disturbed or Developed Areas 24% Scrub and Chaparral, 8% Non-Native Grassland, 3% Coastal Sage Scrub; 2% Water	21.5 Ac. Hermes copper butterfly	Close to OHV users Existing access Interesting terrain Potentially complementary adjacent land use	Bisected by highway Close to existing OHV facility May require mining remediation Sensitive species and habitats	Moderate Potential	Mine reclamation opportunity with interesting terrain close to OHV users

SELECTION KEY

- ○ Site initially identified in Phase 1 but excluded from further analysis in Phase 1
- ◐ Sites eliminated from consideration during Phase 1 analysis
- ● Sites selected to advance to the Phase 2 analysis

NOTE

* OHV drive time is measured from zip code 91911, near Chula Vista, which has the highest density of OHV registrations.

Table 4-3. Phase 1 Site Summary Table (continued)

Selection	Site ID	Size (Acres)	GIS Score Statistics (Min., Max., Avg., Sd.)	No. Parcels/ Owners	Drive Time for OHV Users*	% Developable Land	Planning/Land Use	Vegetation (>1% Area)	Critical Habitats	Primary Opportunities	Primary Constraints	Initial Ranking	Reason(s) for Selection/Exclusion
◐	OHV-18	507	1, 16, 11, 1.5	36/15	1 Hour 10 Minutes	99% Vacant Developable	99% Residential–Spaced Rural, 1% Transportation, 1% East County MSCP	96% Scrub and Chaparral, 3% Pinon and/or Juniper Woodland	121.7 Ac. Quino checkerspot butterfly	Interesting terrain Lower ecological sensitivity	Distant from OHV users Limited areas for parking and other non-trail facilities Potential visual impacts along interstate Sensitive species and habitats	Moderate Potential	Interesting terrain with lower ecological sensitivity
●	OHV-19	1,122	0, 16, 10, 1.6	50/33	45 Minutes	99% Vacant Developable	100% Residential–Spaced Rural, 100% South County MSCP (Unincorporated Land Metro-Lakeside-Jamul)	95% Scrub and Chaparral, 3% Water, 1% Disturbed or Developed Areas, 1% Non-Native Grassland	None	Close to OHV users Interesting terrain Lower ecological sensitivity	Limited areas for parking and other non-trail facilities Limited existing access Potentially incompatible adjacent land uses	Good Potential	Interesting terrain and proximity to OHV users
◐	OHV-20	547	0, 16, 12, 1.3	20/12	1 Hour 15 Minutes	100% Vacant Developable	100% Residential–Spaced Rural, 97% East County MSCP (Agriculture or Natural Upland outside FCA), 3% ECMSCP (Riparian/Wetland Habitat and Transition Zone outside of FCA)	99% Scrub and Chaparral, 1% Water	None	Existing access Interesting terrain Lower ecological sensitivity	Distant from OHV users Existing development Planned development area Potential visual impacts along interstate	Moderate Potential	Interesting terrain with lower ecological sensitivity
○	OHV-21	500	0, 20, 14, 3.8	9/6	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Interesting terrain Take authorized area under South County MSCP	Portion of site planned for conservation Potentially incompatible adjacent land uses Sensitive species and habitats	Low Potential	Sensitive species and habitats, conservation planning constraints, and issues with planned development
○	OHV-22	917	0, 18, 11, 2.0	47/17	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access Interesting terrain Lower ecological sensitivity Near County park/campground	Existing structures Potentially incompatible adjacent land uses USA/Mexico border issues	Low Potential	Incompatible adjacent land uses, existing structures, and USA/Mexico border issues
○	OHV-23	530	0, 16, 11, 1.6	24/13	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access Interesting terrain Lower ecological sensitivity Near County park/campground	Potentially incompatible adjacent land uses Sensitive species and habitats USA/Mexico border issues	Low Potential	USA/Mexico border issues

SELECTION KEY

○ Site initially identified in Phase 1 but excluded from further analysis in Phase 1

◐ Sites eliminated from consideration during Phase 1 analysis

● Sites selected to advance to the Phase 2 analysis

NOTE

* OHV drive time is measured from zip code 91911, near Chula Vista, which has the highest density of OHV registrations.

Table 4-3. Phase 1 Site Summary Table [continued]

Selection	Site ID	Size (Acres)	GIS Score Statistics (Min., Max., Avg., Sd.)	No. Parcels/ Owners	Drive Time for OHV Users*	% Developable Land	Planning/Land Use	Vegetation (>1% Area)	Critical Habitats	Primary Opportunities	Primary Constraints	Initial Ranking	Reason(s) for Selection/Exclusion
●	OHV-24	967	0, 17, 11, 1.9	71/40	15 Minutes	81% Agricultural Redevelop-ment, 16% Vacant Developable	96% Industrial–Light, 3% Transportation, 73% South County MSCP (Minor Amendment Area), 26% South County MSCP (Take Authorized Area)	84% Non-Native Grassland, 15% Disturbed or Developed Areas, 1% Water	11.7 Ac. Riverine	Close to OHV users Existing access Potentially complementary adjacent land use Take authorized area under South County MSCP	Existing structures Portion of site planned for conser-vation Sensitive species and habitats	Low Potential	Close to OHV users with potentially compatible adjacent land uses
○	OHV-25	813	0, 14, 3, 2.8	4/3	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access Interesting terrain	Existing preserve Portion of site planned for conser-vation Sensitive species and habitats	Low Potential	Sensitive species and habitats and planned for conservation
◐	OHV-26	477	0, 11, 5, 2.1	13/7	1 Hour 7 Minutes	99% Vacant Developable	100% Residential–Spaced Rural	96% Scrub and Chaparral, 1% Coastal Sage Scrub, 1% Disturbed or Developed Areas, 1% Nonnative Woodland	33.5 Ac. arroyo toad	Close to OHV users Existing access Interesting terrain	Existing structures Portion of site planned for conser-vation Sensitive species and habitats Potentially incompatible adjacent land uses Shape not ideal for OHV park layout	Moderate Potential	Interesting terrain and proximity to OHV users
◐	OHV-27	525	0, 14, 7, 2.8	24/22	1 Hour 7 Minutes	100% Vacant Developable	100% Residential–Spaced Rural, 2% North County MSCP (Priority Conservation Area)	67% Scrub and Chaparral, 23% Oak Woodland, 8% Disturbed or Developed, 1% Coastal Sage Scrub, 1% Non-Native Grassland	None	Close to OHV users Existing access Interesting terrain	Existing development Portion of site planned for conser-vation Sensitive species and habitats Potentially incompatible adjacent land uses	Moderate Potential	Interesting terrain and proximity to OHV users
●	OHV-28	289	0, 12, 7, 2.1	9/5	31 Minutes	100% Vacant Developable	98% Residential–Spaced Rural, 2% Industrial–Light, 16% South County MSCP (Pre-Approved Mitigation Area)	84% Scrub and Chaparral, 10% Disturbed or Developed Areas, 3% Water, 2% Riparian and Bottomland Habitat	None	Close to OHV users Existing access Interesting terrain Potential mine reclamation opportunity Potentially complementary adjacent land use	Excessively steep northern por-tion of site Portion of site planned for conser-vation Potential visual impacts along interstate Sensitive species and habitats	Good Potential	Interesting terrain and proximity to OHV users
○	OHV-29	294	0, 12, 7, 1.5	20/9	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access Interesting terrain Lower ecological sensitivity	Known community sensitivities Potential visual impacts along interstate Potentially incompatible adjacent land uses Sensitive species and habitats	Low Potential	Known community sensitivities

SELECTION KEY

- ○ Site initially identified in Phase 1 but excluded from further analysis in Phase 1
- ◐ Sites eliminated from consideration during Phase 1 analysis
- ● Sites selected to advance to the Phase 2 analysis

NOTE

* OHV drive time is measured from zip code 91911, near Chula Vista, which has the highest density of OHV registrations.

Table 4-3. Phase 1 Site Summary Table (continued)

Selection	Site ID	Size (Acres)	GIS Score Statistics (Min., Max., Avg., Sd.)	No. Parcels/ Owners	Drive Time for OHV Users*	% Developable Land	Planning/Land Use	Vegetation (>1% Area)	Critical Habitats	Primary Opportunities	Primary Constraints	Initial Ranking	Reason(s) for Selection/Exclusion
○	OHV-30	543	0, 13, 6, 2.0	21/14	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access Interesting terrain Lower ecological sensitivity	Known community sensitivities Portion of site planned for conservation Potentially incompatible adjacent land uses	Low Potential	Known community sensitivities
○	OHV-31	184	0, 15, 8, 2.4	2/1	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access Few landowners Interesting terrain Lower ecological sensitivity	Known community sensitivities Portion of site planned for conservation Potentially incompatible adjacent land uses	Low Potential	Known community sensitivities
○	OHV-32	443	0, 9, 7, 1.5	148/2	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Few landowners Interesting terrain Lower ecological sensitivity	Known community sensitivities Limited existing access	Low Potential	Known community sensitivities
◐	OHV-33	432	0, 13, 8, 2.2	10/8	50 Minutes	95% Vacant Developable	100% Residential–Spaced Rural, 0.3% ECMSCP (RMS 4)	80% Scrub and Chaparral, 12% Oak Woodland 3% Woodland Other, 3% Water, 2% Native Grassland, Meadow, or Broadleaf-Dominated	24.9 Ac. Hermes copper butterfly	Close to OHV users Existing access Interesting terrain	Existing structures Sensitive species and habitats	Good Potential	Interesting terrain and proximity to OHV users
●	OHV-34	403	0, 10, 5, 3.1	3/2	45 Minutes	59% Vacant Developable	99% Residential–Spaced Rural, 1% Transportation, 2% ESMSCP	60% Scrub and Chaparral, 34% Oak Woodland, 6% Water	351.7 Ac. Hermes copper butterfly	Close to OHV users Few landowners Interesting terrain	Bisected by highway Existing structures Potentially incompatible adjacent land uses Sensitive species and habitats	Moderate Potential	Interesting terrain and proximity to OHV users
●	OHV-35	966	0, 16, 5, 1.9	7/2	52 Minutes	97% Vacant Developable	97% Residential–Spaced Rural, 3% Open Space–Park, 95% ECMSCP (Agriculture/ Natural Upland within FCA), 2% ECMSCP (Wetland Habitat within FCA)	58% Scrub and Chaparral, 31% Oak Woodland, 7% Native Grassland/ Meadow, 3% Water, 1% Woodland (Other)	354.8 Ac. Hermes copper butterfly	Close to OHV users Few landowners Interesting terrain	Potential visual impacts along interstate Sensitive species and habitats	Good Potential	Interesting terrain and proximity to OHV users

SELECTION KEY

- ○ Site initially identified in Phase 1 but excluded from further analysis in Phase 1
- ◐ Sites eliminated from consideration during Phase 1 analysis
- ● Sites selected to advance to the Phase 2 analysis

NOTE

* OHV drive time is measured from zip code 91911, near Chula Vista, which has the highest density of OHV registrations.

Table 4-3. Phase 1 Site Summary Table (continued)

Selection	Site ID	Size [Acres]	GIS Score Statistics [Min., Max., Avg., Sd.]	No. Parcels/ Owners	Drive Time for OHV Users*	% Developable Land	Planning/Land Use	Vegetation [>1% Area]	Critical Habitats	Primary Opportunities	Primary Constraints	Initial Ranking	Reason(s) for Selection/Exclusion
○	OHV-36	1,361	0, 13, 8, 3.0	58/36	Data not collected	Data not collected	Data not collected	Data not collected	Data not collected	Close to OHV users Existing access Interesting terrain	Conflicting County priorities Existing structures Portion of site planned for conservation Sensitive species and habitats	Low Potential	Conflicting County priorities
●	OHV-37	234	0, 10, 7, 2.3	6/4	35 Minutes	99% Vacant Developable	100% Residential–Spaced Rural, 5% South County MSCP (Pre-Approved Mitigation Area)	90% Scrub and Chaparral, 7% Oak Woodland, 1% Riparian and Bottomland Habitat	230.4 Ac. Hermes copper butterfly	Close to OHV users Existing access Few landowners Interesting terrain	Limited areas for parking and other non-trail facilities Portion of site planned for conservation Sensitive species and habitats	Moderate Potential	Interesting terrain, few landowners, and proximity to OHV users
●	OHV-38	557	0, 14, 4, 3.8	26/8	16 Minutes	100% Vacant Developable	91% Industrial–Light, 9% Solid Waste Facility, 99% South County MSCP (Major and Minor Amendment Areas)	63% Coastal Sage Scrub, 33% Non-Native Grassland, 2% Water, 1% Disturbed or Developed Areas	488.4 Ac. Quino checkerspot butterfly, 328.9 Ac. coastal California gnatcatcher, 219.0 Ac. Otay tarplant, 17.9 Ac. San Diego fairy shrimp, 1.0 Ac. Riverside fairy shrimp	Close to OHV users Existing access Interesting terrain	Portion of site planned for conservation Sensitive species and habitats USA/Mexico border issues	Low Potential	Interesting terrain and proximity to OHV users
●	OHV-39	375	1, 10, 8, 1.3	5/1	1 Hour 45 Minutes	99% Vacant Developable	100% Residential–Spaced Rural, 100% North County MSCP (Outside PCA)	94% Scrub and Chaparral, 5% Coastal Sage Scrub, 1% Water, 1% Disturbed or Developed Areas	None	Interesting terrain for trail development. Existing access roads Predominantly lower sensitivity habitat Proximity to public land with existing OHV trails Single landowner and willing seller	4.2 acres of riverine habitat Distant from San Diego County OHV users Existing residences and development Limited areas to develop access, parking, and other facilities	Moderate Potential	Interesting terrain and willing seller

SELECTION KEY

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◐ Sites eliminated from consideration during Phase 1 analysis

● Sites selected to advance to the Phase 2 analysis

NOTE

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Table 4-3. Phase 1 Site Summary Table [continued]

4.5 References

Bureau of Land Management (BLM). 2023. "NLCS Wilderness Areas." Accessed October 2, 2023. https://www.geoplatform.gov/metadata/b7d51776-477d-4307-b446-ba177bf0c9f0.

Holland, R.F. 1986. "Preliminary Descriptions of the Terrestrial Natural Communities of California." Unpublished manuscript, last modified October 02, 2023. chrome-extension://efaidnbmnnnibpcajpcglclefindmkaj/file:///C:/Users/38586/Downloads/Holland%201986%20Preliminary%20Descriptions%20of%20Terrestrial%20Natural%20Communities.OCRed.pdf%20(1).pdf.

Natural Resources Conservation Service (NRCS). 2012. "SSURGO/STATSGO2 Metadata." Accessed January 18, 2023. https://www.nrcs.usda.gov/resources/data-and-reports/ssurgo/stats2go-metadata.

San Diego Association of Governments (SANDAG) Technical Services GIS. 2005. "Slopes CN GIS Metadata: Slope, Relief, Percent Slope." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Slope.

SANDAG Technical Services GIS. 2014. "Landuse Planned GIS Metadata: Planned Land Use, Land Use, Landuse, SANDAG, San Diego." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Land%20Use.

SANDAG Technical Services GIS. 2015a. "Vernal Pools SD GIS Metadata." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Ecology.

SANDAG Technical Services GIS. 2015b. "City of San Diego Public Utilities Dept. Habitat Mitigation Sites GIS Metadata: Mitigation, Restoration, Wetland Creation, Wetland Enhancement, Preservation." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Land%20Use.

SANDAG Technical Services GIS. 2015c. "Developable Land." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Land%20Use.

SANDAG Technical Services GIS. 2017. "San Diego County Agricultural Preserve Contracts GIS Metadata: Ag Contracts, Williamson Act, Contract Lands, Agricultural Contracts, San Diego Count." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Agriculture.

SANDAG Technical Services GIS. 2022a. "Conserved Lands GIS Metadata." Conserved Land, San Diego, Open Space, Protected Areas, Natural Communities Conservation. Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Ecology.

SANDAG Technical Services GIS. 2022b. "Eco Vegetation CN GIS Metadata: Vegetation Communities." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Ecology.

SANDAG Technical Services GIS. 2022c. "Wetlands: National Wetlands Inventory—Version 2." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Ecology.

SANDAG Technical Services GIS. 2022d. "San Diego County Agricultural Preserve LandsGIS Metadata: An Diego County, Preserve Lands, Conservation Land Act." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Agriculture.

SANDAG Technical Services GIS. 2022e. "South County Multiple Species Conservation Program: MSCP, SCMSCP, Multiple Species Conservation Program, South County Subregional Plan, Environment, Boundaries, Planning." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Land%20Use.

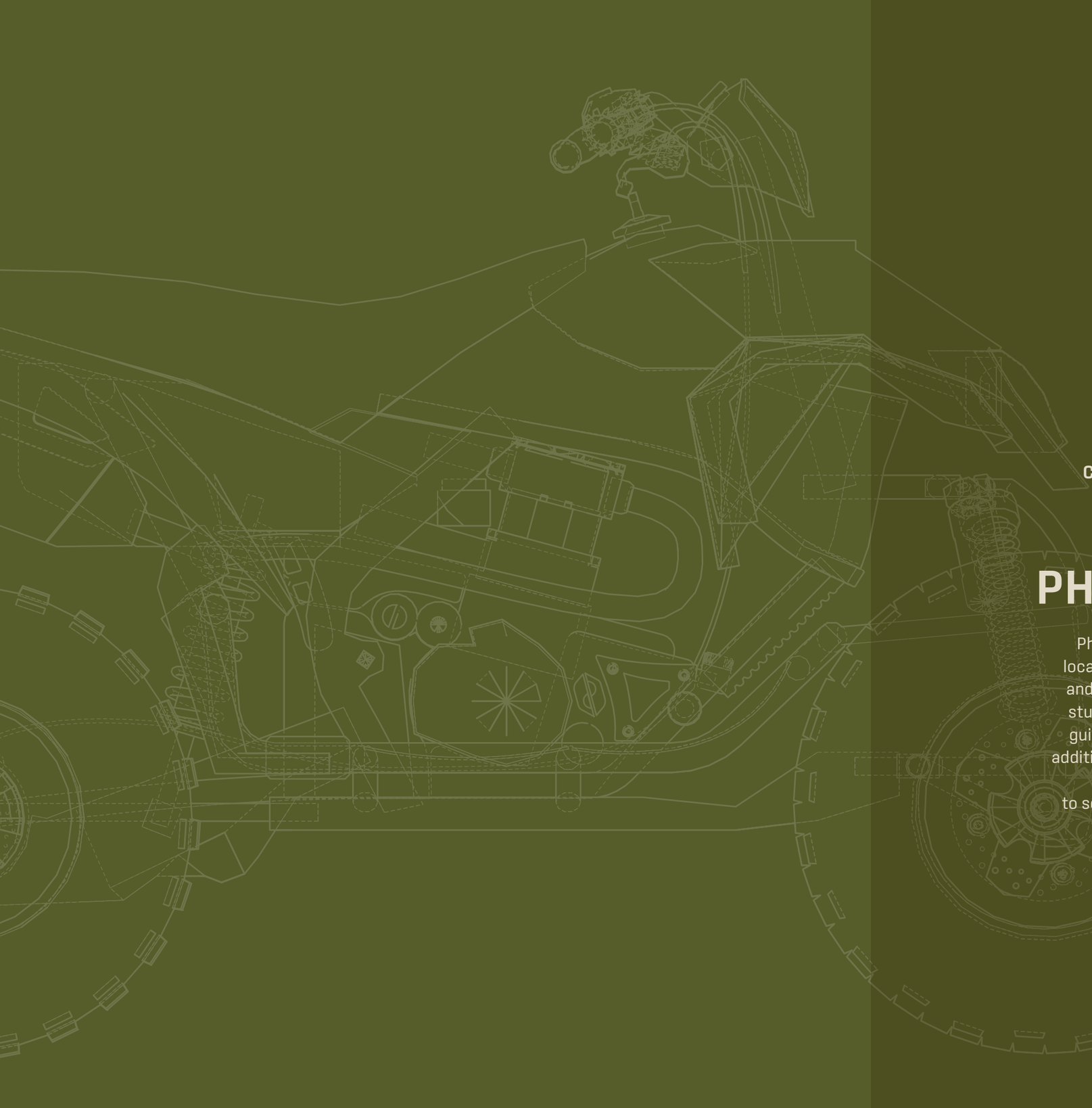
SANDAG Technical Services GIS. 2022f. "Environmentally Sensitive Areas Meta Data." Environmentally Sensitive Area, ESA, Water Resources Control Board, MSCP, PAMA, Multiple Species Conservation Program, Multiple Species Conservation Plan, NCCP, Natural Community Conservation Planning, Pre-approved Mitigation Area, HABITRAK, gain, RARE, beneficial use, threatened, endangered, species, ASBC, South County Hardline Preserve, EPA, 303(d), 303d. Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Ecology.

SANDAG Technical Services GIS. 2023. "Indian Reservations GIS Metadata: Indian Reservations, County of San Diego, Tribal Lands." Accessed January 18, 2023. https://rdw.sandag.org/Account/gisdtview?dir=Jurisdiction.

SANDAG Technical Services GIS. 2024. "Multi-Habitat Planning Area." Accessed August 1, 2024. https://rdw.sandag.org/Account/gisdtview?dir=Ecology.

U.S. Department of Defense (DOD). 2019. "Fiscal Year 2018 Military Installations, Ranges, and Training Areas: Department of Defense Sites, Commonly Referred to as Installations, Ranges, Training Areas, Bases, Forts, Camps, Armories, Centers, Etc." https://services1.arcgis.com/IDFzr3JyGEn5Eymu/arcgis/rest/services/USDOD_MilitaryInstallationsRangesAndTrainingAreasFY18/FeatureServer/1/metadata?format=default&f=html.

U.S. Fish and Wildlife Service (USFWS). 2023. "Environmental Conservation Online System: USFWS Threatened & Endangered Species Active Critical Habitat Report." Accessed January 18, 2023. https://ecos.fws.gov/ecp/report/table/critical-habitat.html.



COUNTY OF SAN DIEGO OHV PARK FEASIBILITY STUDY

CHAPTER 5
PHASE 2 SITE SELECTION

Phase 2 of the site selection process evaluated nine potential locations for an OHV park at a deeper level, focusing on biological and cultural resources, along with economic considerations. The study aimed to rank these sites by constraints and suitability to guide further development planning. Continued public outreach, additional study of biological, cultural, and environmental resources, as well as economic factors and landowners' willingness to sell their properties, will be required in future project phases to further assess the potential OHV park sites.

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5.0 PHASE 2 SITE SELECTION

5.1 Phase 2 Site Selection Summary

As explained in **Chapter 4**, *Phase 1 Site Selection*, nine sites were selected for further study during the Phase 2 site selection process. These sites are OHV-17, OHV-19, OHV-24, OHV-28, OHV-34, OHV-35, OHV-37, OHV-38, and OHV-39. Because they are adjacent to one another, sites OHV-24 and OHV-38 were analyzed as one site, OHV-24/38, during Phase 2 analysis. Approximate locations for these sites are shown on **Figure 5-1**.

Phase 1 focused on analyzing huge datasets to identify the best candidate sites. Phase 2 focuses on having expert biologists, archaeologists, and planners examine the candidate sites at a deeper level.

Phase 2 analysis focused on evaluating biological and cultural resources known to be present at each of the nine sites that remained viable at the completion of the Phase 1 process. Phase 2 also included an overview of economic considerations and a summary of their significance for the development of an OHV park at each site. This chapter provides an overview of the results of these studies. A summary of site suitability rankings based on biological and cultural resources and economic considerations is included in **Tables 5-1a–c**.

5.2 Biological Resources Review for Phase 2 Sites

Methodology

A biological resources review was conducted to provide a detailed study of biological resources known or presumed to be present at each site and their significance for the development of a potential OHV park at each location. Hydrology was evaluated using the National Hydrography Dataset to identify the location of wetlands and other hydrologic features such as open water and streams. Various databases of known vernal pool locations were also reviewed as part of this analysis.

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Vegetation communities and other land cover were characterized using County-provided vegetation community maps that include the National Wetlands Inventory database and follow the Holland-Oberbauer classification system. The sensitivity of the community and required mitigation ratio for impacts was provided by the South County MSCP, with Tier I species being the highest-priority species, often including those that are federally or state listed as endangered or threatened. They require the most stringent protection and mitigation measures. Tier II species are also of high conservation concern but may not be as critically endangered as Tier I species. They still require significant protection and management efforts to prevent them from becoming more at risk. Tier III species are generally more common and less at risk than those in Tiers I and II. However, they are still important for the overall biodiversity and ecological health of the region, and their habitats are managed to maintain stable populations.

To identify special-status species, a records search was conducted of the California Natural Diversity Database Special Plant List and Special Animals List, the County Biological Guidelines, USFWS Carlsbad Fish and Wildlife Office species occurrence data, and San Diego Biological Information and Observation System sensitive species sightings. Species are noted as occurring or with the potential to occur inside the site boundary and within the 0.5-mile search area buffer.

The biological review identified key "Environmentally Sensitive Areas" (ESAs) that would guide the analysis. For this review, ESAs represent a combination of the following databases:

- County of San Diego South County MSCP Hardline Preserve
- Preserved land within MSCP
- MSCP Pre-Approved Mitigation Area
- Clean Water Act Section 303(d) waterbodies with a 200-foot buffer
- Waters that support habitats for rare, threatened, or endangered species
- Areas of Significant Biological Concern
- USFWS critical habitat

High biological constraint rankings describe sites that are more constrained due to ecological and biological resources such as wetlands, drainages, and special-status plant and animal species.

Medium biological constraint rankings are assigned to sites that have some sensitive biological resources but where those resources are less dense than at sites ranked as high, and where those resources could be avoided through careful site design.

Low biological constraint rankings suggest that there are minimal limiting biological resources within the site boundaries or that sensitive biological resources can be easily preserved through site design.

Key Findings

Tables 5-1a summarizes the constraints for each site and provides an overall site constraint ranking (**High, Medium,** or **Low**). All sites contain wetland resources, Tier I–III species habitat, and the potential for special-status plants and animals to occur.

- Site OHV-17 also received a **Low** ranking with the assumption that the project would stay within the extensive already-disturbed portions of the site. Outside the already-disturbed areas of the site, the natural habitat supports, or may support, several special-status species that could encumber the project.
- Site OHV-19 received a **Low** constraint ranking, primarily due to the low number of special-status species that are likely to occur and that less than 1% of the site that is located within ESAs. However, up to 96% of the site contains Tier I–III habitat.
- Site OHV-24/38 received a **High** constraint ranking because it has a high number of special-status species, critical habitat, wetland features, and possibly vernal pools.
- Site OHV-28 received a **Low** ranking, primarily due to the low number of special-status species that are likely to occur. Up to 78% of the site contains Tier I–III habitat and up to 16% is located within ESAs.
- Site OHV-34 received a **Low** constraint raking, primarily due to the low number of listed species that have the potential to occur. 92% of the site contains Tier I and II habitat.
- Site OHV-35 received a **Low** constraint raking. No special status species have been documented within the site. 89% of the site contains Tier I and II habitat.

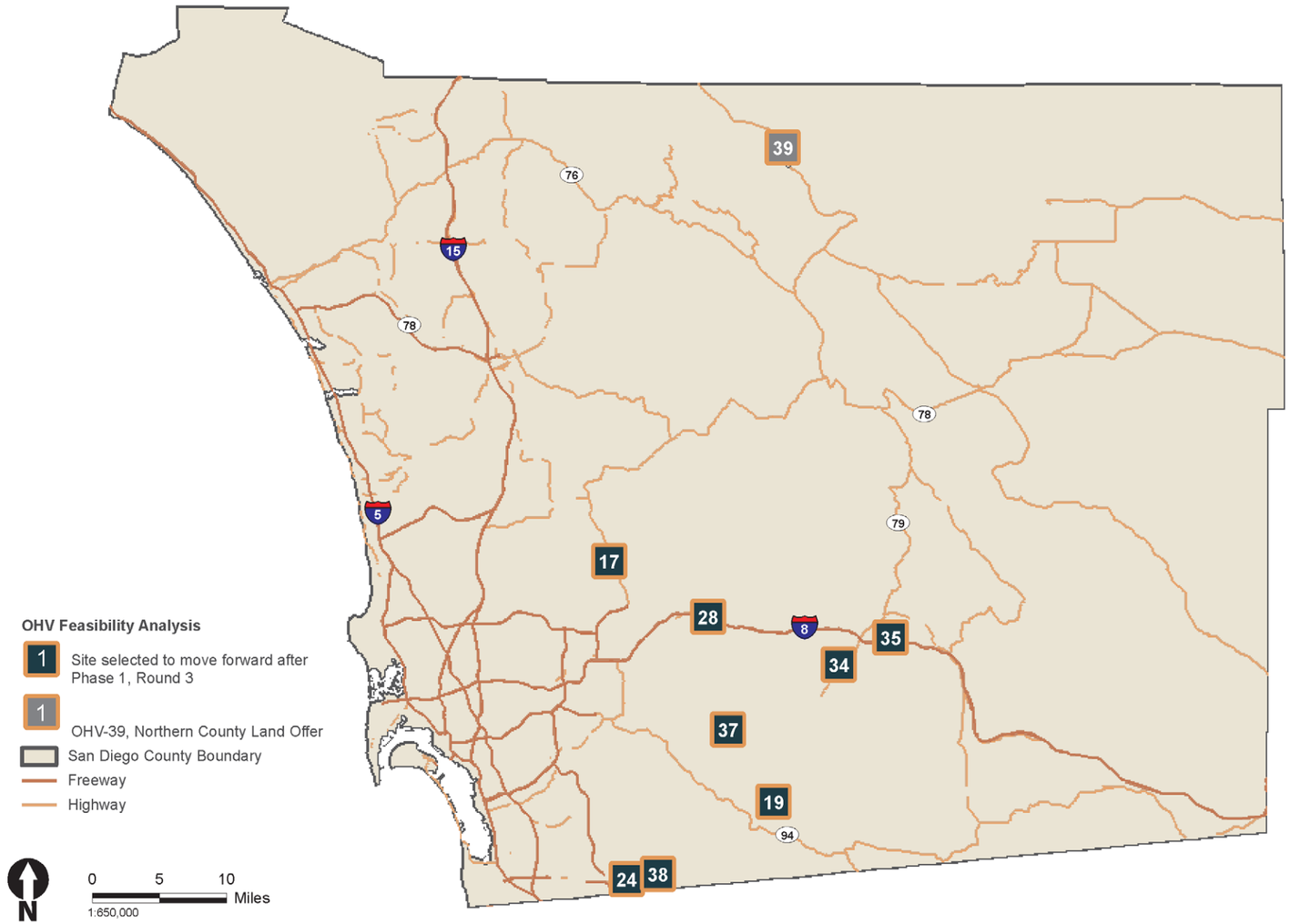

Figure 5-1. OHV Sites Included in Phase 2 Analysis

Proposed Site	Unique Resources to Consider	Biological Constraints Rating	Site Suitability Rating
OHV-17	San Diego thornmint, San Diego fairy shrimp, Quino checkerspot butterfly, western spadefoot toad, coastal California gnatcatcher, least Bell's vireo, Crotch's bumble bee	Low**	●
OHV-19	Golden eagle, Crotch's bumble bee	High	○
OHV-24/38	Otay tarplant, San Diego button-celery, spreading navarretia, Riverside fairy shrimp, San Diego fairy shrimp, western spadefoot toad, coastal California gnatcatcher, least Bell's vireo, western burrowing owl, Crotch's bumble bee	High	○
OHV-28	Southwestern willow flycatcher, mountain lion, Crotch's bumble bee	Low	●
OHV-34	Western spadefoot toad, Crotch's bumble bee	Low	●
OHV-35	Southwestern pond turtle, Crotch's bumble bee	Low	●
OHV-37	Dehesa nolina, Hermes copper butterfly, Townsend's big-eared bat, pallid bat, Crotch's bumble bee	Medium	◐
OHV-39	Mojave tarplant, Quino checkerspot butterfly, Townsend's big-eared bat, Stephens' kangaroo rat, Crotch's bumble bee	Medium	◐

Table 5-1a. Site Value Ratings by Criteria—Biological Resources

Proposed Site	Cultural Resources within Site Boundary	Sacred Lands File Search Results	Cultural Resources Constraints Rating	Site Suitability Rating
OHV-17	Low	Positive	Moderate	◐
OHV-19	Low	Positive	Moderate	◐
OHV-24/38	High	Positive	Moderate to High	○
OHV-28	Low	Positive	Low	●
OHV-34	Medium	Negative	Moderate	◐
OHV-35	Medium	Negative	Moderate	◐
OHV-37	Low	Positive	Low	●
OHV-39	Low	Positive	Low	●

Table 5-1b. Site Value Ratings by Criteria—Cultural Resources

Proposed Site	Ease of Visitation	Quality of User Experience	Cost/Maintenance	Potential Visitation and Benefits Rating*	Site Suitability Rating
OHV-17	High	Medium	High	Medium	◐
OHV-19	Medium-Low	Medium	Medium	Medium	◐
OHV-24/38	High	Medium	High	High	●
OHV-28	High	Medium	High	High	●
OHV-34	Medium	Medium	Medium	Medium	◐
OHV-35	Medium	High	Medium	Medium	◐
OHV-37	Medium	Low	Low	Low	○
OHV-39	Low	Medium	Medium	Low	○

Table 5-1c. Site Value Ratings by Criteria—Potential Visitation and Benefits

RATINGS KEY

- ● Suitable site
- ◐ Somewhat suitable site
- ○ Unsuitable site

NOTES

* This overall rating prioritizes ease of visitation, trail network potential size, and cost of development. Based on user feedback, the criteria having the most weight in the overall rating may be different.

** Rating would be higher if the park is not constrained to the disturbed areas.

- Site OHV-37 received a **Medium** constraint ranking. This site Includes some unique resources, including intermittent and ephemeral streams, open water, and two special-status plant species. 98% of the site contains Tier I and II habitat.
- Site OHV-39 also received a **Medium** ranking. This site includes intermittent and ephemeral streams and open water. 99% of the site contains Tier II habitat but no special-status plant species or federally or state-listed animal species.

Conclusions and Recommendations

- Although each site contains wetland resources, streams present on each site are only intermittent or perennial. Open water is typically associated with habitat (e.g., vernal pools) and was considered during habitat evaluations.
- Additional surveys and jurisdictional delineations are needed to confirm current conditions of hydrological and biological resources and assess the need for regulatory permitting.
- Site-specific environmental review and analysis pursuant to the California Environmental Quality Act will be conducted prior to implementation at any specific site. Environmental review will include analysis, compliance, and any necessary permits to comply with state and federal regulations including the Endangered Species Act, Clean Water Act, etc.
- The project will be required to include monitors during construction activities and measures to avoid or address impacts on biological resources.
- After the park becomes operational, regular monitoring of habitat quantity and quality and populations of sensitive species will be necessary to ensure resources designated for protection remain protected. Preventive measures such as fencing, signage, and educational efforts should be in place and should be adjusted as necessary as part of an adaptive management program.
- Mitigation measures, such as habitat conservation or avoidance and minimization, would be required for impacts on Tier I–III vegetation communities and any special-status species that have been documented on the site or adjacent to the site (e.g., Group A plant species, bat roosts, bird nesting season avoidance).

5.3 Cultural Resources Review for Phase 2 Sites

Methodology

The Phase 2 cultural resources review took a closer look at the potential OHV park sites identified during the Phase 1 process. The methodology included desktop research focused on identifying potential cultural resources and cultural-resource sensitivity at each site, and within a 0.25-mile radius of each site. This research included a Sacred Lands File search, review of historic maps and aerial photos, a records search, and literature review. This research also included inventories of previous cultural resources management reports (i.e., technical reports) prepared for projects within and adjacent to a given study area. Information contained in available technical reports indicates the extent to which an area has been studied and what data potential may remain. No pedestrian surveys or field visits were conducted; additional studies and tribal consultation would be needed to move forward with evaluating sites for further consideration.

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Site sensitivity rankings, defined below and included in site summaries and **Table 5-1b**, provide a snapshot of the archaeological sensitivity and potential constraints associated with each OHV site.

High rankings describe sites that are archaeologically sensitive due to the prevalence of previously recorded cultural resources within the site boundaries and results of historic map reviews.

Medium rankings are assigned to sites where cultural resources are present, but the density or data potential of these resources may be lower compared to high-ranking sites. OHV sites shown to lack adequate survey coverage (e.g., OHV-35), to contain feasibly habitable landforms, and that are proximal to water or resources are also considered to have a moderate ranking.

Low rankings suggest that there are minimal cultural resources within the site boundaries (e.g., OHV-28) or that the results of previous assessments indicate a lower likelihood of encountering archaeological materials (e.g., OHV-37). Consequently, these sites are considered to have fewer constraints from a cultural perspective.

Key Findings

OHV-17

OHV-17 may be considered sensitive for buried, previously undocumented precontact and historic-period archaeological resources in areas that were not previously subject to quarrying. Overall, it has **Medium** archaeological sensitivity due to its mix of industrial, quarried, and undeveloped land, historical settlement, and numerous documented cultural resources.

OHV-19

OHV-19, a mostly undeveloped site, has **Medium** archaeological sensitivity due to its rocky, mountainous terrain, historical ranching activities, and valleys with proximity to water sources that would be attractive for long-term habitation.

OHV-24/38

OHV-24 and OHV-38 analyses were combined due to their proximity to one another. These sites have **Medium to High** archaeological sensitivity due to numerous recorded cultural resources and extensive urban development, with undeveloped areas having high sensitivity.

OHV-28

OHV-28 has **Low** archaeological sensitivity due to the absence of recorded cultural resources, lack of historic-period development, and steep terrain that would not support human habitation.

OHV-34

OHV-34 is a partially developed site. It has **Medium** archaeological sensitivity due to the presence of precontact and historic resources, including potential historic-age buildings and early farming features.

OHV-35

OHV-35 has **Medium** archaeological sensitivity due to its varied topography, ecological diversity, and presence of both historic and precontact cultural resources.

OHV-37

OHV-37 is a 235-acre undeveloped site in a rocky, mountainous area, with **Low** archaeological sensitivity due to limited recorded cultural resources and steep terrain that would not support human habitation.

OHV-39

OHV-39 is characterized by natural vegetation and limited rural residential land. Its archaeological sensitivity is considered **Low**, due to the absence of recorded cultural resources and steep terrain with no nearby water sources that would not support human habitation.

Constraints Rankings

Table 5-1b summarizes the cultural resources constraints for each site and provides an overall site constraints ranking (High, Moderate, or Low). Six of the eight sites contain cultural resources, and six of the eight sites were positive for sacred lands search results.

Site OHV-24/38 received a **Moderate to High** ranking because, although these areas include extensive urban development, there are numerous recorded cultural resources and undeveloped areas with high sensitivity.

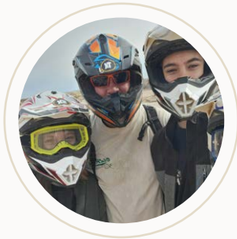
Sites OHV-17, OHV-19, OHV-34, and OHV-35 received a **Moderate** ranking because although the research indicated numerous documented cultural resources and likely sacred sites, there is a lack of cultural survey information and varied topography.

Sites OHV-28, OHV-37, and OHV-39 received a **Low** ranking due to the prevalence of steep topography and absence of recorded cultural resources.

Conclusions and Recommendations

- A pedestrian survey, records searches, and further Tribal consultation and cultural resources review are recommended for all sites and required for those sites or portions of sites without previous surveys.
- Overall, the highest sensitivity is found in valley areas near water sources. Large-scale or complex archaeological sites are typically not found on steep slopes or away from water sources. Undeveloped and ungraded areas are primarily characterized by steep slopes. Encountering intact archaeological deposits within areas of previous quarrying may be unlikely.
- The number of cultural resources identified within each proposed OHV site in **Table 5-1b** is a product, in part, of previous cultural resources studies conducted within each proposed OHV site. Developing a site for an OHV park could cause damage or destruction of the cultural resources. New site features, amenities, or increased visitor presence may all affect existing cultural resources.
- Project design is essential to preserve important cultural resources in place per the California Environmental Quality Act (§ 21083.2b)
- Once an OHV site is selected, mitigation measures, such as preservation, protection, or avoidance of cultural resources, are recommended. Avoidance of cultural resources by project design is the County's preferred method of mitigation. To minimize any impacts to unknown resources, construction that involves ground disturbance will include cultural resources monitoring.

5.4 Economic Market Analysis of Potential Visitation and Benefits for Phase 2 Sites



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The recreation benefits and economic value of a new OHV park would vary by site. To aid in site selection, the team conducted an economic analysis to identify and evaluate each potential site using nine market-based site selection criteria. These criteria were formulated based on three factors:

- **Ease of Visitation/Access**. How easy is it for riders to visit the park? For example, is it conveniently located within relatively close driving proximity of OHV users and is there sufficient room for parking?
- **Suitability/User Experience Quality**. How suitable is a given site to a high-quality park experience? Do the desired trail network types and sizes fit the site, does it have sufficient topographical and landscape interest and diversity, and can the desired mix of visitor facilities and amenities be accommodated? Are there attractive views and natural settings at given site?
- **Economic Feasibility**. What is the economic feasibility of the park, including development and maintenance costs? Is the cost of road access and utilities high or low? Can the site be used only for part of the year or year-round, and what would be the long-term maintenance cost?

Metrics were developed for each criterion, and each of the eight sites was ranked according to these metrics. Land costs and potential effects on adjacent property values and land uses, which can vary significantly based on location and potential alternative uses, were not analyzed in this study. These criteria also do not include considerations for site sensitivity (biological, cultural, and adjacent land use factors). **Table 5-1c** summarizes the site value findings for each site, along with a tentative overall rating. When evaluating potential sites for an OHV park in future study phases, the County should carefully consider land costs, the potential effects on adjacent land uses and property values, and the cost of impacts on sensitive cultural and biological resources.

5.5 Phase 2 Conclusions

Additional study of sensitive biological and cultural resources, as well as economic factors and landowners' willingness to sell their property, will be required to further narrow the pool of potential OHV park sites. These additional studies were beyond the scope of the current Feasibility Study. As a result, DPR has not narrowed the field of potential sites any further and intends to seek additional grant funds to conduct more in-depth studies and landowner outreach.

Design considerations for an OHV park, along with potential concept plans for hypothetical sites, are presented in **Chapter 6**, ***Guidelines for Site Planning and Design***.

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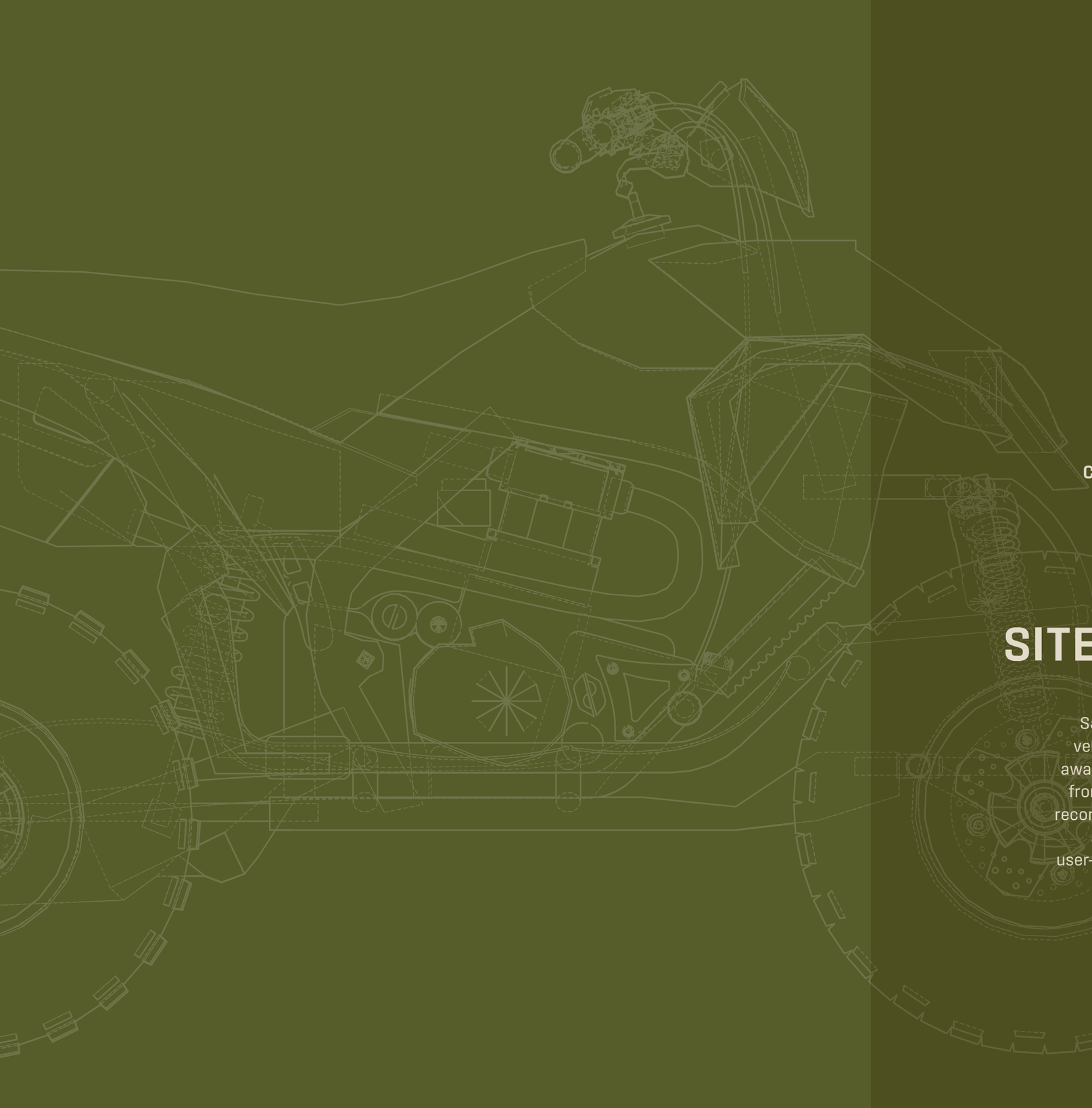

COUNTY OF SAN DIEGO OHV PARK FEASIBILITY STUDY

CHAPTER 6
GUIDELINES FOR SITE PLANNING AND DESIGN

Guidelines for planning and designing an OHV park in San Diego County were developed, focusing on site planning, vehicle types, park amenities, design goals, and environmental awareness while taking into consideration County goals and input from the public and roundtable meetings. The guidelines include recommendations for trail design, park amenities, safety measures, and minimizing environmental impacts, aiming to create a user-friendly and environmentally responsible OHV park that meets the diverse needs and interests of OHV riders.

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6.0 GUIDELINES FOR SITE PLANNING AND DESIGN

6.1 Introduction

The Phase 1 and Phase 2 analyses found considerable interest in developing an OHV park in San Diego County, along with concerns about sensitive resource protection and other environmental factors. While the analyses identified several potential sites within the county, DPR and the consultant team recognized that additional studies, along with stakeholder and landowner outreach, will be necessary before an OHV park site can be identified and planning for a park at that site can begin.

The Phase 1 and Phase 2 analyses found considerable interest in developing an OHV park in the county, along with concerns about sensitive resource protection and other environmental factors.

As discussed in **Chapter 2**, ***Community Outreach Process***, the common design themes heard during public outreach conducted under the Phase 1 and Phase 2 analyses include the following:

- Locate an OHV park close enough to the core of San Diego, with easy access, so that day use would be possible without a long commute
- Provide a variety of riding types, for a variety of users
- Focus on family activities and experiences for riders of all ages
- Design the park so that sensitive environmental and cultural resources are avoided and protected
- Prioritize trails and restrict open area riding
- Include noise, visual, and dust abatement and mitigation in site location and design
- Promote safety in park design and operation

Since specific sites for further consideration have not yet been identified, this chapter presents design considerations and guidelines for any potential OHV park that the DPR might consider. Examples from successful OHV parks are included. **Chapter 7**, ***Conceptual Design Plans***, presents conceptual plans for three hypothetical sites to illustrate how the design guidelines could be implemented.

6.2 OHV Types

The vehicle types that an OHV park could accommodate include 4x4 vehicles (a Jeep, four-wheel-drive truck, or similar street legal vehicle that is off-road capable), side-by-side/utility terrain vehicles (UTVs), ATVs, and motorcycles/dirt bikes.

Electric vehicles are increasingly popular and should be addressed in the design intent and operational rules of an OHV park.

Recent trends in the automotive industry include development of OHVs with electric drive-trains. These trends are expected to continue, creating a larger portion of OHVs operating with electric drives. Further planning and design of an OHV park should embrace this change and the potential reduction in carbon emissions and noise that electric vehicles may offer.

It is important to note, however, that a variety of other electric vehicles are increasingly popular and should be addressed in the design intent and operational rules of an OHV park. E-bikes, electric unicycles (EUCs), Onewheels, scooters, hoverboards, electric skateboards, and similar Personal Electric Vehicles (PEVs) are all rapidly evolving electric vehicles with an increasing user base. They all have different capabilities, riding norms, speeds, trail needs, and governing regulations, but none are in the same class of vehicles as traditional OHVs and should not share trails with OHVs. If space allows and if demand warrants, an OHV park could be designed to accommodate certain PEVs by:

- Providing clearly separated riding facilities dedicated solely to PEVs, or
- Allowing and scheduling special events set up and managed specifically for PEVs (e.g., the Race for the Rail, a Onewheel event held at Hollister Hills SVRA in 2025).

Maximizing safety of all users should be the primary factor in any decision on whether and how to allow PEV use in an OHV park.

Figure 6-1 illustrates types of OHVs that could be accommodated at the park.

Successful OHV park design. *A successful OHV park offers various trail types and difficulty levels to draw riders with different vehicle types, ages, and abilities.*

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4x4s

Description Four-wheel truck or similar; can be street legal; off-road capable

Configuration Typically two to four bucket seats or bench seats; steering wheel

Approximate Size 151 inches long, 67 inches wide, 70 inches tall

Side-by-Sides (Large)

Description Four-wheel side-by-side recreational vehicle

Configuration Four bucket seats or bench seats; steering wheel

Approximate Size 154 inches long, 64 inches wide, 66 inches tall

Side-by-Sides (Small)

Description Four-wheel side-by-side recreational vehicle

Configuration Two bucket seats or bench seats; steering wheel

Approximate Size 123 inches long, 64 inches wide, 69 inches tall

UTVs (Utility)

Description Four-wheel all-terrain vehicle

Configuration Bucket or bench seats; steering wheel; foot pedals

Approximate Size 85 inches long, 48 inches wide, 50 inches tall

ATVs

Description Four-wheel all-terrain vehicle

Configuration One straddle seat; handlebar

Approximate Size 73 inches long, 45 inches wide, 44 inches tall

Motorcycles

Description Two-wheel motorcycle

Configuration One straddle seat; handlebar

Approximate Size 85 inches long, 33 inches wide, 51 inches tall

Kids' Motorcycles or ATVs

Description Two-wheeled motorcycle or ATV for children

Configuration One straddle seat; handlebar

Approximate Size 38–63 inches long, 25–35 inches wide, 21–26.4 inches tall

Figure 6-1. Types of OHVs and Typical Specifications

IMAGES: 4x4s, © Dick Rol/ICF; Side-by-Sides (Large), © Dick Rol/ICF; Side-by-Sides (Small), Richard R. (@sepro)/Unsplash; UTVs (Utility), Tavia B. (tavia_0508_sb)/Unsplash; ATVs, © Dick Rol; Motorcycles, © Dick Rol/ICF; Kids' Motorcycles or ATVs, DPR; Background Image, © Dick Rol/ICF

4X4 Vehicles

Typical Uses

- Wide, traditional vehicle stance
- Carries multiple people, so supports group ride in one vehicle
- Used for general exploration, hill climbs, technical rock crawling, often at slow to extremely slow speeds
- Focus on technical challenges and casual exploration
- Some specialized vehicles are capable of higher speeds on rough terrain

Design Implications

- Wide stance requires full-width roads/trails
- Lower typical speeds minimize safety conflicts compared to side-by-sides or other high-speed vehicles
- Can provide high-quality and diverse amenities in a small area with specialized 4x4 courses (e.g., Ocotillo Wells 4x4 area)
- Medium to long exploration trails are desirable if space allows
- Vary terrain for engagement, but avoid erosion-prone materials
- Provide rock crawls, ledges, and hill-climb opportunities if they can be done sustainably

Side-by-Side/Utility Terrain Vehicles

Typical Uses

- Seats two to six riders, often with roll cages and seat belts
- Recreation options: trail riding, dune exploring, desert “play” areas, moderate high-speed runs
- Handles varied conditions: mud, sand, rocky terrain; some models (e.g., performance side-by-sides) achieve higher speeds on rough routes

Design Implications

- Vehicle width typically requires a 7-ft-side trail; 12–14 ft wide passing areas could be provided
- Two-way trails are not recommended due to increased safety risks
- Design loops and switchbacks with gentler curves and banking to facilitate safe turns because side-by-sides are larger than ATVs
- Provide longer sight distances due to increased speeds
- Robust surfaces are essential: gravel, compacted ledge rock, or well-maintained dirt to withstand the weight and minimize erosion
- Separate high-speed play zones from slow technical areas to reduce conflicts with other users
- Require larger staging areas and parking bays for loading/unloading
- Include hill-climb features or technical rock routes suitable for guided challenge experiences

All-Terrain Vehicles

Typical Uses

- ATVs are narrow and lightweight, built for maneuverability on tight, twisty paths
- Ideal for technical trails, short-distance loops, and natural terrain exploration
- Frequently used for rock crawling, obstacle courses, and short steep climbs

Design Implications

- Trail minimum: 7 feet wide
- Small turning radii allow tight switchbacks and inclined curves—enhancing challenge and engagement
- Banked turns recommended on faster trail sections
- Ideal to keep steep pitches short to reduce erosion and risk
- Use durable materials—gravel, crushed rock, compacted mineral soils to minimize erosion
- Design to provide variety: looped trails, spurs to scenic or technical features
- Combine open flow sections with tight technical segments for mixed appeal
- Clearly separate technical zones from general recreation for user clarity
- Install signage and barriers in blind turns and steep patches

Motorcycles

Typical Uses

- Narrow, agile, single-track vehicles designed for off-road; motocross, enduro, trail riding on narrow paths
- Use on challenging terrain: navigating roots, rocks, whoops, tight turns, and technical features that test rider skill
- Typically used by intermediate to advanced riders
- Operate at a variety of speeds, from low-speed technical riding to high speed tracks, trails, or jumps

Design Implications

- Requires small trail width: 2–3 feet in wooded areas for one-way; 6 feet for two-way or open area travel
- Mix flow terrain and technical sections to enhance rider experience
- Include tight switchbacks, root/rock sections, whoops, berms, jump lines—tailored to difficulty levels
- Provide spurs to challenging rock gardens, vistas, or technical climb/drop zones
- Classify trails (e.g., color/numeric systems) to guide riders to terrain matching their skill
- Separate high-speed flow trails from tight technical or shared-use single-track
- Include narrow bike trailer parking/unloading zones, staging areas, and wash stations at trailheads
- E-bikes and electric motorcycles are not the same class of vehicle. Plan for accommodating evolving trends for electric motorcycles, but as of the date of this study it is not advised to allow e-bike use of the OHV facility.

6.3 OHV Park Amenities Options

The size of the OHV park would dictate how many different uses can be accommodated.

The size of the OHV park would dictate how many different uses can be accommodated. A large OHV park (100–1,000 acres) could accommodate a wider range of trail types, vehicle types, and riding experiences and provide more opportunity for longer trail routes as well as additional amenities such as concessions. A smaller OHV park (up to 100 acres) could accommodate fewer trails and vehicle types and may need to focus primarily on a limited number of focused uses. A variety of specialized track facility types, from a small youth practice track that may only cover about 1 acre, to a larger technical track requiring 15 acres or more, can be used to organize riding activities in a small park.

Some vehicles may not be compatible for sharing a given trail or track, and clear rules should be posted regarding the types of vehicles and uses on any given facility. Rider safety is of paramount importance, and trails should be designed to avoid the possibility of blind curves, blind hills, and other conditions that increase the possibility of collisions between vehicles. Separate areas can be designated for 4x4 vehicles, side-by-side vehicles, ATVs, and motorcycles to avoid conflicts between riders on different vehicle types. Use of one-way trails and physical barriers preventing entry by certain vehicle types are other useful design tools to reduce conflicts between vehicle types.

Possible design elements and features in an OHV park design are discussed below.

Practice Tracks

Practice tracks are generally designed with different features and varying levels of difficulty to tailor them to specific vehicle types and rider skill levels.

Practice tracks[1] are tailored to specific vehicle types and rider skill levels. The number and variety of tracks would depend on the available acreage and user interests. Supported vehicle types may include ATVs, motorcycles, side-by-sides, and four-wheel-drive vehicles such as Jeeps or trucks (**Figure 6-1**). Rider abilities may be categorized by youth, veteran, and professional levels. It is important that separate practice areas are provided for youth or new riders to ensure a safe training environment.

Tracks are generally designed with varying levels of difficulty and a range of features depending on the site's topography, available space, and the design direction gleaned through the design process and public input. Motorcycle and ATV practice tracks may include jumps, berms, technical obstacles, and diverse terrain to challenge and develop rider skills. In contrast, practice tracks for four-wheel-drive vehicles may incorporate features such as terrain alterations, tight turns, jumps, and different types of surface materials, including sand, rock, and mud. Overall, the configuration of each practice area will be shaped by the landscape and the specific needs of the riders it is intended to serve.

Various types of practice or technical tracks could be provided individually throughout the park (**Figure 6-2**) or grouped near each other in one area of the park (**Figure 6-3**).

[1] A *practice track* is a less-structured area where riders of all skill levels refine their capabilities. A *training track* is a structured area where beginners can learn basic safety and riding skills. Figures in this section show both track types.

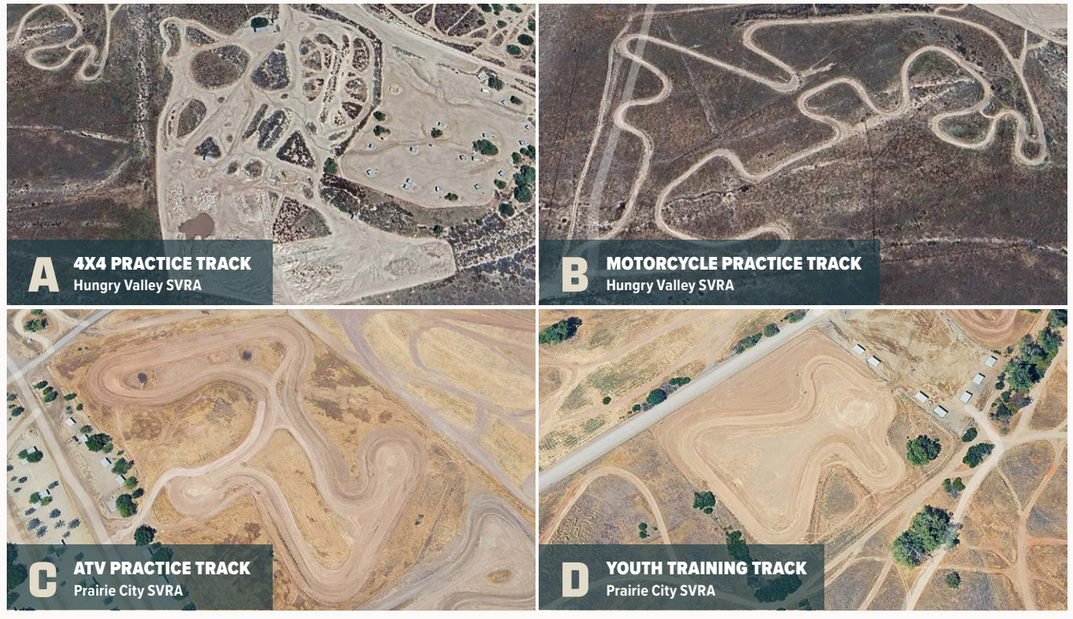


Figure 6-2. Examples of Practice Tracks

IMAGES: **A.** ©2025 Airbus. Accessed via Google Earth Pro. Image date: August 29, 2023. Access date: August 6, 2025. **B.** ©2025 Airbus. Accessed via Google Earth Pro. Image date: August 29, 2023. Access date: August 6, 2025. **C.** ©2025 Google. Accessed via Google Earth Pro. Image date: June 27, 2024. Access date: August 6, 2025. **D**. ©2025 Google. Accessed via Google Earth Pro. Image date: June 27, 2024. Access date: August 6, 2025.

Figure 6-3. Training Tracks at Carnegie SVRA

SOURCE: ©2025 Airbus. Accessed via Google Earth Pro. Image date: May 13, 2023. Access date: August 6, 2025.

Figure 6-4. Harold Seens Youth Track

SOURCE: © 2025 Airbus. Accessed via Google Earth Pro. Image date: April 23, 2023. Access date: August 6, 2025.

A small, circuitous track with a set of jumps and turns that loop back on themselves limits vehicles to a confined area and does not require a large land parcel. It also provides a clear delineation of where certain types of riding occur, enhancing safety for riders both within and in the vicinity of the track (**Figure 6-4**). One acre is adequate for a youth practice track or motorcycle mini-track, while 15 or more acres may be necessary for a motocross practice track.

Technical Areas

Technical riding areas are designed for specific types of vehicles and difficulty levels. These areas offer a variety of riding experiences, such as challenging hill climbs, 4x4 obstacle courses, fenced open riding zones, or narrow single-track trails. Each type of feature is intended to provide riders with distinct technical challenges based on their vehicle capabilities and skill level. The number, size, and complexity of these technical areas depend on the available acreage and the site's natural terrain.

Hill Climbs

Designated hill climb areas allow riders to test their skills on steep, challenging inclines with varying levels of difficulty. These areas can be designed with different slope gradients and surfaces, from loose soil to rocky terrain, to accommodate a range of vehicle types and rider experience levels.

4x4 Skills Courses

Skills courses—designed for slow, controlled maneuvering over large boulders and uneven terrain—can be developed for 4x4 vehicles, side-by-sides, and advanced riders looking to hone their technical driving skills. These technical sections require careful design to ensure rider safety while offering a range of difficulty levels, from beginner-friendly obstacles to expert-level rock courses.

Figure 6-5. Open Riding Areas, Designated Trails, Tracks, and Hill Climb Areas at Carnegie SVRA

SOURCE: © 2025 Airbus. Accessed via Google Earth Pro. Image date: May 13, 2024. Access date: August 6, 2025.

Enduro Tracks

The tracks are designed to challenge riders' abilities, skill, and equipment. They include challenging elements such as steep terrain, rocks, logs, and jumps. This kind of track is typically oriented toward motorcycles and often used for special events and competitions.

Trail Riding Areas

Trail riding areas are categorized based on difficulty level, vehicle type, and the types of vehicles permitted. These trails can range from wide, well-maintained roads to narrow, rugged single-lane paths. They can curve and meander through the site, creating a sense of exploration.

The number of trails available at a given site, along with the allowed vehicle types and difficulty levels, varies depending on the site size, natural topography, and local demand for specific trail experiences. Only very large sites are typically capable of supporting four-wheel-drive vehicles on trail systems. A variety of vehicles may use trail systems, but to enhance safety and reduce the risk of accidents, it is essential to maintain clear separation between different vehicle types and to use well-marked signage indicating trail direction and flow.

Figure 6-5 shows the extensive trail system at Carnegie SVRA.

Restrooms, Picnic Areas, and Parking

Amenities for riders and their families are a key component of a successful riding area. Centralized parking lots should be a priority, allowing easy access to nearby trails and tracks. These lots can be designed as either open areas where drivers park at their discretion or as designated spaces with marked stalls. Regardless of layout, parking areas should include safe entry and exit points, clear signage, and accessible trash receptacles. When possible, additional features such as water access, fuel stations, and loading ramps can greatly improve the rider experience. Restrooms and picnic areas located near parking lots benefit all users, particularly families. Youth riding areas should ideally be placed close to both parking and restrooms to ensure convenience and ease of supervision.

© DICK ROL/ICF

***Picnic Area**. Designated eating areas and other amenities for riders and their families are a key component of a successful riding area.*

Food Store/Concessions Stand

While not essential, food stores and concession stands are most often found at larger OHV sites. These amenities can enhance the overall visitor experience by providing convenient access to meals, snacks, and beverages. In addition to improving rider comfort, they offer opportunities to generate additional revenue and support local businesses through partnerships or vendor operations.

Parts Store

A parts store can be a valuable addition to large OHV sites, offering both operational and recreational benefits. By providing convenient access to essential parts and accessories, a parts store helps reduce rider downtime and ensures a smoother, more enjoyable experience. In addition to enhancing visitor satisfaction, it can also serve as a source of increased revenue and further support the overall success of the park.

ESA Buffers

These zones are designated to restrict or prohibit OHV use to protect sensitive ecological and cultural resources. In addition to establishing buffer areas, other mitigation measures may be implemented, such as revegetating disturbed land or constructing physical barriers to prevent unauthorized access. These strategies help preserve the integrity of the landscape and support responsible recreation.

Drainage Buffers

Drainage buffers are critical for protecting water quality and maintaining the natural function of waterways on OHV sites. These vegetated zones are established along streams, creeks, and other drainage features to reduce sediment runoff, filter pollutants, and prevent erosion caused by vehicle traffic. By maintaining a safe distance between riding areas and water channels, drainage buffers help preserve aquatic ecosystems and support long-term site sustainability. These buffers should be clearly marked and maintained, with additional protective measures such as signage, fencing, or reinforced crossings where necessary. In addition, water quality facilities could be installed at the downstream edge of the site to ensure that any water quality impacts are contained within the site.

Viewpoints

Viewpoints on OHV sites offer riders and visitors the opportunity to pause and appreciate scenic landscapes, natural features, or cultural landmarks. These designated areas can enhance the recreational experience by encouraging rest, reflection, and responsible use of the land. Ideally located at high elevations or areas with panoramic views, viewpoints should be safely accessible, clearly marked, and may include amenities such as benches, informational signage, or barriers for safety. Incorporating viewpoints into site design can also help manage rider flow and reduce environmental impacts by discouraging off-trail exploration in sensitive areas.

Protective Fencing

Fencing can be installed in places where people might go off trail, such as at intersections and at parking lots, and to protect ESAs. Fencing placement depends on actual site conditions and ongoing management—for example, if a natural barrier such as dense vegetation or a steep slope exists, fencing may not be necessary.

Signage

Wayfinding, informational, and educational signage enhance the safety and experience of riders and provide educational content related to OHV use, natural and cultural resources, and other topics of interest.

***Educational signage**. Signs help communicate key messages about trail closures, safety hazards, avoiding environmentally sensitive areas, responsible riding, trail closures, and other important information.*

SOURCE: TREADLIGHTLY.ORG

Helipad/Emergency Landing Area

Helipads or emergency landing areas on OHV sites provide critical access points for medical evacuation and emergency response. Helipads should be located to allow quick and safe access for emergency personnel and should be clearly marked, kept free of obstacles, and maintained to accommodate various types of emergency vehicles. Their inclusion in site planning demonstrates a commitment to safety and preparedness, enhancing the overall security of the recreation area.

Typical OHV Park Features by Park Size

Examples of potential features of a large, medium, or small OHV park are listed in **Table 6-1**, along with typical acreages needed.

Features	Large OHV Park	Medium OHV Park	Small OHV Park
Total Park Area	500-1,000+ acres	100-500 acres	50-100 acres
Parking/Staging Lot	6-10 acres (100 vehicles)	3-5 acres (50 vehicles)	1-2 acres (30 vehicles)
Picnic Shade Structures (8'x10')	50 total	30 total	10 total
Shaded Viewer Area (100 seats)	0.25 acre	None	None
Youth Practice Area (1 Acre)	1-2 acres	1 acre	1 acre
Motorcycle Mini Track (1 Acre)	1-2 acres	1 acre	1 acre
Motorcycle Practice Track (15 Acres)	15 acres	10-15 acres	None
ATV/UTV Mini Track (3 Acres)	3-5 acres	3-5 acres	2-3 acres
ATV/UTV Practice Track (6 Acres)	6-10 acres	5-8 acres	5-6 acres
4WD Practice Track (4 Acres)	4 acres	4 acres	4 acres
Open Trails	40 miles	20 miles	10 acres
Helicopter Landing Pad for Emergency Evacuation (with safety clear zones) 150' x 150'	0.5 acre	0.5 acre	None
Parts Store and Concessions Kiosk	0.25 acre	0.25 acre	None
Restroom Buildings (20'x20')	2 total	2 total	1 total

Table 6-1. Large, Medium, and Small OHV Park Features and Associated Acreages

6.4 Design Goals

DPR has identified six main design goals for the park, based on feedback received from outreach events and operational needs. These are:

- Promote safe access and rider safety
- Accommodate a wide range of users including groups and families
- Support OHV day-use activities
- Limit impacts on sensitive resources and neighboring land uses
- Minimize maintenance requirements
- Accommodate evolving technologies, including providing electric vehicle charging stations

Promote Safe Access and Rider Safety

Emergency Access

A well-designed OHV park takes vehicle safety and emergency access into consideration and accommodates this in the location of the site as well as the site layout. When reviewing road access to a potential OHV park site, ease of emergency vehicle access should be considered. The park entrance should not be located on a blind curve and traffic patterns should be taken into consideration to reduce the likelihood of collisions when vehicles enter or exit the site. Emergency vehicle access should be provided within the OHV site; a wide road should provide access to the separate types of tracks/trails so that an ambulance or fire truck can get as close as possible and pull through without having to turn around to exit the park. Two entry/exit points to the park can facilitate this. At remote OHV riding areas, helicopter access may be advisable. A dedicated landing pad is a good idea where space is limited, or the helicopter may land in any open areas near the location of the injured person.

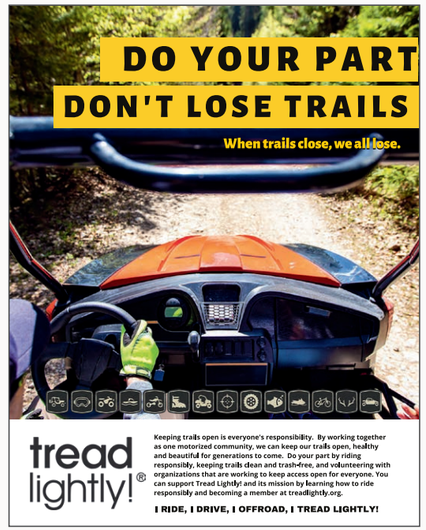
Safety

Safety should be of paramount concern when designing the OHV park. A key method of improving safe riding is to provide trails for separate types of vehicles and users when possible or only allow certain types of vehicles at the park. One-way trails are a valuable tool for managing vehicle conflicts, as is careful trail design that avoids blind corners and congested intersections. In addition, trails should not go near natural hazards such as cliffs, and installed features such as fences should be clearly visible and easily avoided.

Safety should be of paramount concern when designing the OHV park. A well-designed OHV park takes vehicle safety and emergency access into consideration and accommodates this in the site location, site layout, and signage.

Educational programs and signage can be used to promote safe riding best practices. Educational programs can be offered to teach riders how to operate their vehicles safely, the importance of following trail signage, and how to respond to injuries and emergencies. Signage making trail types and difficulty levels clear and warning about hazards helps keep riders safe.

Organizations such as Tread Lightly! and the National Off Road Vehicle Conservation Council have rider safety education programs such as the Responsible Rider Master Class and digital assets that promote responsible ridership. Safety signage could be posted at trailhead kiosks. The park could partner with local organizations to put on responsible rider events that help attract families and create a culture of safety.



Safety signage. *Example of safety signage can be posted at trailhead kiosks to promote safe riding.*

SOURCE: TREADLIGHTLY.ORG

Accommodate a Wide Range of Users

Locating an OHV park within easy access from urban areas can allow families the opportunity to enjoy the park during the day, without having to dedicate an entire weekend to OHV recreation. This makes park use more cost-effective as well.

A wide range of trail types and difficulty levels attracts OHV riders with different vehicle types, ages, and abilities. Open parking areas let families or other groups park near each other in informal configurations, which makes it easy to socialize. Activities for youth can help attract new riders and train them in safety basics. Supporting amenities in the park such as picnic tables, restrooms, a snack bar, and an OHV parts store or rental location can help attract a wider range of OHV users, including those who may be non-OHV-riding family members or who may not own their own equipment.

Trail Ratings

Many OHV recreation areas use a standardized trail rating system to help riders assess difficulty levels and choose appropriate routes. This system classifies trails based on width, steepness, and surface composition, allowing riders to gauge their skill level against the challenges presented by each route. While conditions can vary, these ratings provide a general guide for safe and enjoyable riding.

A wide range of trail types and difficulty levels attracts OHV riders with different vehicle types, ages, and abilities.

A strong example of this system in practice is the Hungry Valley SVRA in Gorman, California. With over 100 miles of trails, Hungry Valley uses its rating system to accommodate motorcycles, ATVs, and four-wheel-drive vehicles. Each trailhead features signs with color-coded symbols indicating difficulty levels and one-way routes, ensuring that riders can make informed choices before setting out.

The trail rating system consists of three main categories (**Table 6-2**). While these ratings serve as a guideline, trail difficulty can be subjective, varying by vehicle type and rider experience. A path that is easy for an expert with a modified vehicle may be impassable for a novice in a stock model. Additionally, weather conditions such as rain can drastically alter the difficulty of certain trails. By following this system, OHV parks like Hungry Valley enhance safety, improve rider experience, and help visitors navigate terrain suited to their abilities.

Rating	Symbol	Difficulty	Details
Green Circle		Easiest	These trails resemble well-maintained roads with minimal obstacles and no steep inclines. Ideal for beginners who have mastered basic riding skills, they provide a smooth and accessible experience. Approximately 10% of trails in most systems fall into this category.
Blue Square		More Difficult	Designed for intermediate riders, these trails feature steeper grades, tighter switchbacks, and moderate obstacles. They present a reasonable challenge while maintaining a higher degree of technical riding. Around 80% of trails in most systems are in this category.
Black Diamond		Most Difficult	The most challenging trails, these routes demand expert-level skill and experience. They feature steep climbs, narrow passages, rough or loose surfaces, and significant obstacles. Riders attempting these trails should be well prepared and highly proficient. Roughly 10% of trails in many systems fall into this category.

Table 6-2. Trail Rating System

Limit Impacts on Neighboring Land Uses and Sensitive Resources

To ensure minimal environmental impact and maintain good relationships with neighboring communities, several best practices should be considered, as discussed in this subsection.

Access Planning and Traffic Considerations

Road access should be planned to minimize local traffic disruption. OHV sites should not be accessed through residential or small business areas. Emergency vehicle access must be prioritized, ideally with two entry/exit points for wildfire and accident response.

Visual Impacts Management

An OHV park in an environment that has a lower existing visual quality, such as being located near a commercial or industrial development, may represent less visual change to the vicinity and therefore have a lower visual impact. The visual impact of OHV activity can be buffered by locating the OHV park away from sensitive receptors such as scenic routes, residences, and sensitive businesses. A park may also be designed to be hidden from view by landforms such as berms, hills, and dense vegetation. Any nighttime lighting at the park should avoid rich blue light, which is more readily scattered in the atmosphere than other types of light, leading to increased light pollution. Rich blue light disrupts natural ecosystems, affects plants and wildlife, and can harm human health. Other types of light sources and light fixtures that shield and direct light downward should be used.

Noise Management

Noise from OHV activity is a major concern for neighboring residences and businesses. Park users' vehicles must meet the sound limits set in the OHV Noise Regulations established by the Off-Highway Motor Vehicle Recreation Division of California State Parks, as well as all relevant County and local noise standards.

Locating OHV areas behind natural topographic barriers, such as hills or mountains, can significantly reduce noise impacts. Wind patterns affect noise travel, so a study of prevailing wind directions should be included in determining the most suitable location for OHV sites. The most effective way to limit noise impacts is by locating OHV facilities at least 1 mile from sensitive receptors and on the other side of a landform that would block noise. Moderately dense vegetative plantings can absorb some vehicle noise, but denser plantings are not effective at blocking it (Ow and Ghosh 2017).

Dust Mitigation

OHV activity can generate dust, creating visibility hazards and potential health risks. Best practices include locating riding areas downwind of housing, businesses, and major roads. Soil stabilization techniques should be used where needed, while avoiding chemical stabilizers that may harm native flora and fauna. Vegetative cover such as native grasses or shrubs should be used to help anchor soil and reduce airborne dust. Windbreaks like berms, fencing, or tree lines should be installed in strategic locations to minimize dust transport to sensitive areas. Water-based dust suppression methods should be employed in high-use zones and when high wind is predicted. During especially high wind events, the park may shut down operations on some trails. Water application should ensure minimal runoff impacts on surrounding ecosystems. The site would need to include wells or water storage tanks for use in dust suppression. Regular air quality monitoring at designated points should be conducted to assess dust impacts and adjust mitigation strategies accordingly.

Protection of Sensitive Environmental Resources

Any proposed OHV park may have an impact on wildlife habitat and watershed health. The park should be designed to avoid the habitats of sensitive species and landscape types. Trails should be strategically placed to minimize erosion, particularly in areas where they cross drainages. Sustainable park planning should also include measures to limit runoff and pollution, such as treatment and monitoring features at downstream outlets, preserving the integrity of nearby streams, rivers, and wetlands.

ESAs such as sensitive species habitat, wetlands, and cultural resource areas should be mapped at the site before site design begins so they can be avoided and protected.

Habitat Protection. Sensitive habitat areas should be protected by buffers where riding is not allowed, as well as strategically placed fencing.

Best practices signage. *Example of signage that encourages riders to follow practices that protect sensitive resources.*

SOURCE: TREADLIGHTLY.ORG

Drainages and Wetlands. Trails should be sited to limit the number of drainage crossings and impacts to other aquatic resources. Where trails do cross drainages, the crossing should be at a 90-degree angle to the drainage to minimize impacts and protective measures should be included, such as bridges, articulated concrete mats, adding rock surfacing, or siting the crossing at dry sandy washes or where the substrate is naturally rocky.

Erosion Control. The main cause of erosion on trails is poor stormwater management. In particular, long downhill runs that build up stormwater lead to erosion. Soil particles loosened by vehicle tires become more susceptible to displacement, particularly in wet or very dry conditions, where vehicle movement can create ruts that channel water and increase its velocity, intensifying erosion.

Even with well-designed trails, some level of erosion is inevitable, but its impact can be mitigated with proper design and management. Sustainable trail design should incorporate features such as grade reversals and rolling dips to slow and redirect water flow, preventing the formation of deep channels. Minimizing continuous downhill slopes and integrating grade breaks can help disperse water and reduce its erosive force. Additionally, proper drainage planning, including the use of rocked surfaces and articulated concrete mats for water crossings, can ensure that stormwater does not create erosion-prone areas along trails (**Figure 6-6**).

Design for Low Maintenance and Sustainability

Trail systems should be designed to require minimal maintenance while ensuring long-term durability. Sustainable trail design ensures that sensitive natural and cultural resources are not affected, natural hydraulic flow patterns are not disrupted, and erosion is prevented. Meeting user needs and interests is also important, so that trail users stay within the designated riding facilities and do not create unauthorized trails or riding areas.

Potential obstacles in operations and maintenance should be assessed during the site selection process, including any impediments to facility and trail maintenance, trash removal, security, communications, and emergency access. Sites should be evaluated for limitations regarding peak use and special event situations.

Design to Accommodate Evolving Technologies

Facilities provided at an OHV park will need to be evaluated and adjusted as technology evolves. For example, electric vehicle charging stations could be provided to support electric vehicle use.

Solar-powered electric vehicle charging stations could be included in park design.

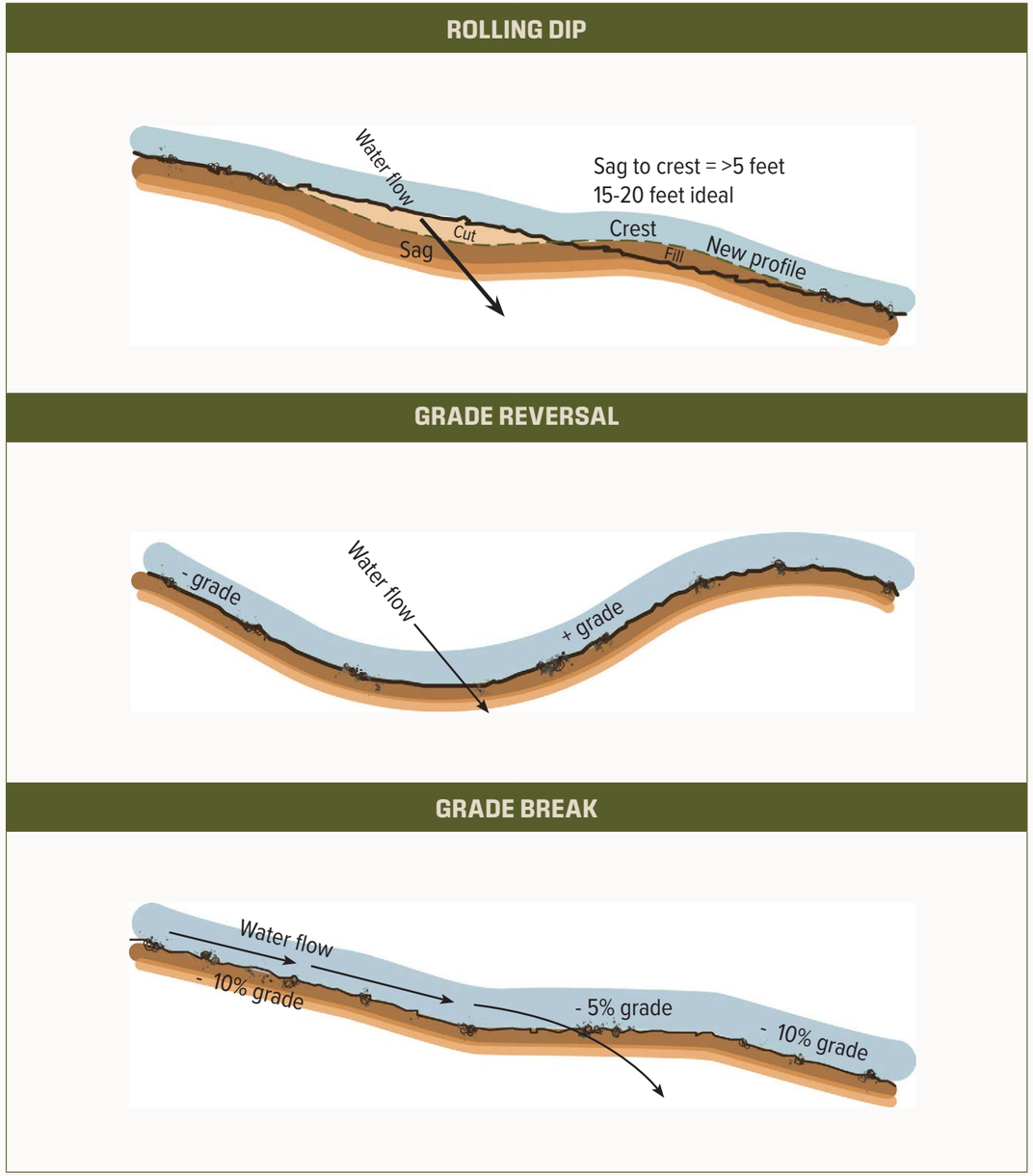
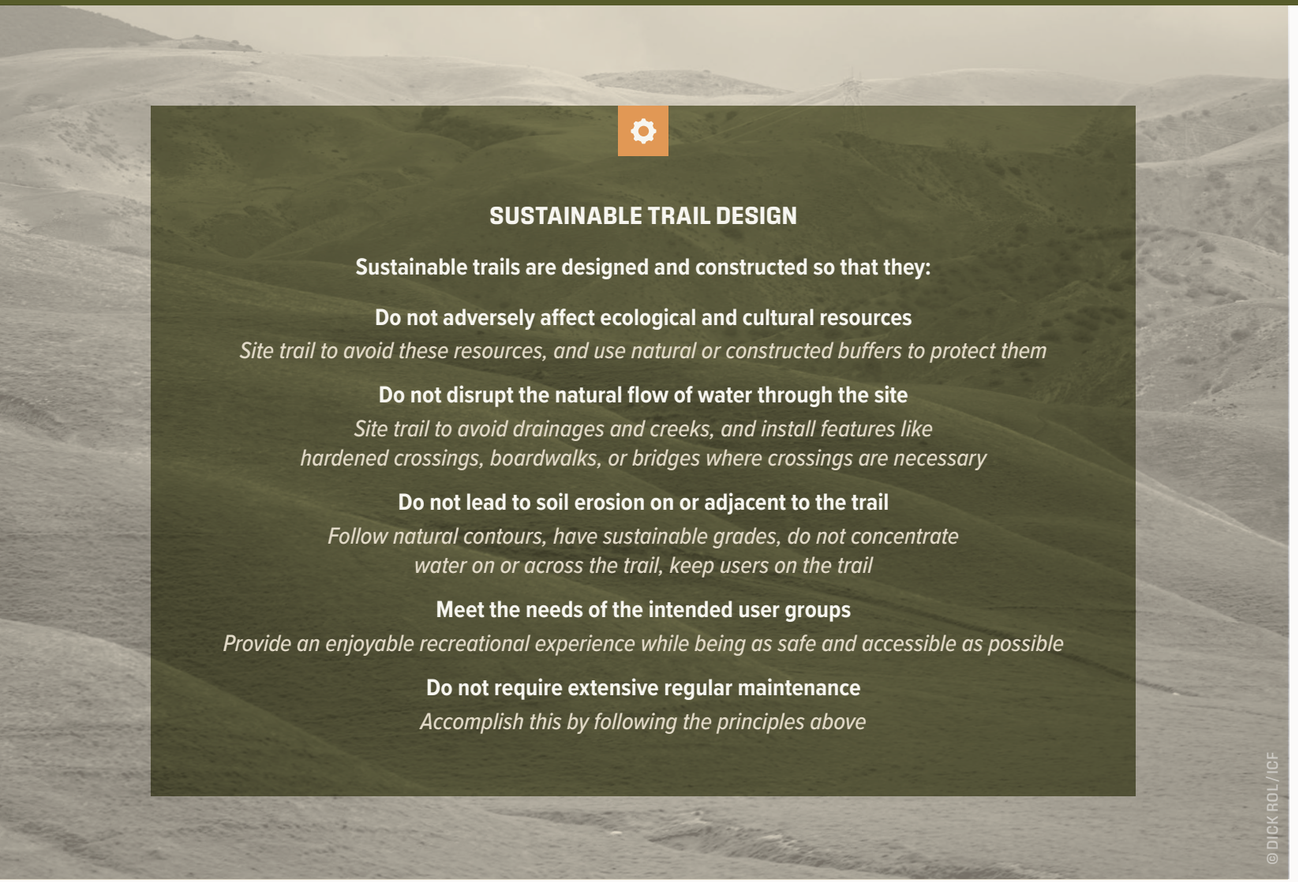


Figure 6-6. Trail Design and Erosion Prevention Measures

SOURCE: Adapted from NOHVCC's *Great Trails Guidebook*.



SUSTAINABLE TRAIL DESIGN

Sustainable trails are designed and constructed so that they:

Do not adversely affect ecological and cultural resources
Site trail to avoid these resources, and use natural or constructed buffers to protect them

Do not disrupt the natural flow of water through the site
Site trail to avoid drainages and creeks, and install features like hardened crossings, boardwalks, or bridges where crossings are necessary

Do not lead to soil erosion on or adjacent to the trail
Follow natural contours, have sustainable grades, do not concentrate water on or across the trail, keep users on the trail

Meet the needs of the intended user groups
Provide an enjoyable recreational experience while being as safe and accessible as possible

Do not require extensive regular maintenance
Accomplish this by following the principles above

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Use Signage to Help Meet Park Goals

Well-sited and designed signage can help attain the park's goals. There are five categories of signage relevant to an OHV park. Signage types may be combined. All of them have a role in rider safety:

- Identification signage provides the name of the park and park features such as parking, restrooms, ESA areas, and areas reserved for fire/emergency access.
- Orientation signage gives park users an overview of their surroundings. A typical orientation sign is a trail map, often located at a trailhead kiosk with a "you are here" indicator. It should clearly orient users to the riding facility types and difficulty levels, and indicate hazards, park facilities, and where to go to get emergency aid.
- Directional signage provides cues to let visitors know where to go. It would be installed throughout the park to direct traffic, indicating which way riders should go on a certain trail or at an intersection; these are especially important on one-way trails and should indicate trail types and difficulty levels.
- Interpretive or educational signage can help the viewer understand and appreciate features of the park that may not be immediately obvious such as why a sensitive area may be off limits to riders, and can also educate users on how to ride responsibly and safely.
- Regulatory signage cues rider behavior. This type of sign may indicate the trail type and difficulty level and basic park rules. They should be easy to read at a distance and may use universal visual icons such as a directional arrow or circle with a diagonal line to indicate activities that are not allowed.

Resources

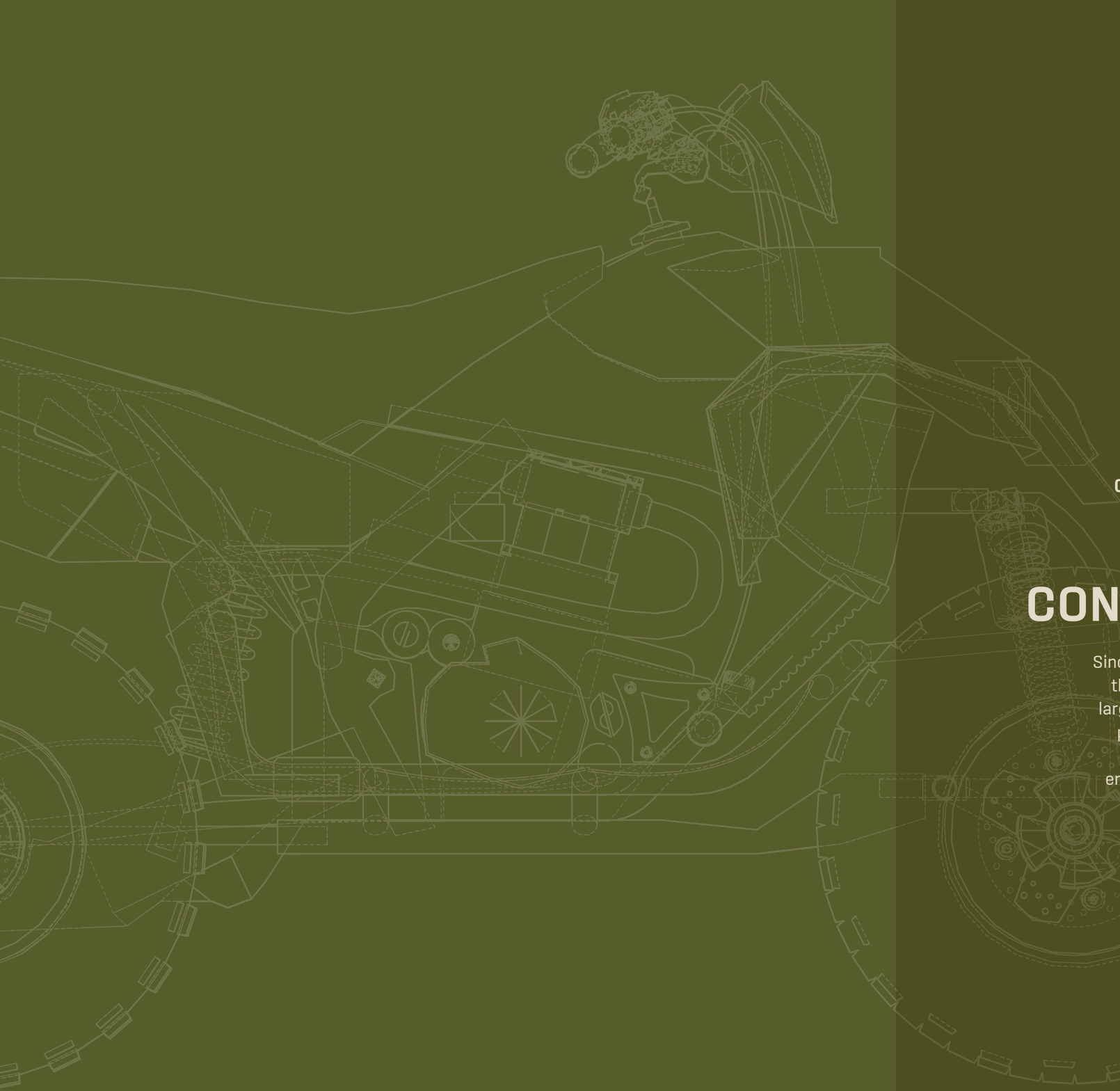
Some helpful resources for OHV park planning and design, including effective wayfinding, regulatory, and interpretive signage, are listed in **Chapter 8**, ***Next Steps***.

Regulatory signage. *Pictured above is an example of signage that helps riders understand how to protect sensitive resources.*

SOURCE: TREADLIGHTLY.ORG

6.5 References

Ow, L.F., and S. Ghosh, Urban Cities and Road Traffic Noise: Reduction through Vegetation. 2017. Available online at: https://www.sciencedirect.com/science/article/abs/pii/S0003682X17300270?via%3Dihub. Accessed August 26, 2024.



COUNTY OF SAN DIEGO OHV PARK FEASIBILITY STUDY

CHAPTER 7
CONCEPTUAL DESIGN PLANS

Since a site for the proposed OHV park has not yet been selected, three hypothetical OHV park designs—for small, medium, and large sites—were developed using common characteristics from potential sites to demonstrate possible future site designs. Each design considers site conditions, user safety, and environmental protection. Each design is intended to meet the needs and interests of a variety of OHV riders.

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7.0 CONCEPTUAL DESIGN PLANS

7.1 Overview of Hypothetical Park Designs

Since a site for the proposed OHV park has not yet been selected, three hypothetical concept plans (small, medium, and large) were created using characteristics common to the potential sites studied under Phase 2 that scored highly, combining a variety of potential site conditions. Using the information gathered through stakeholder and public outreach and case studies and the design guidelines presented in **Chapter 6, *Guidelines for Site Planning and Design,*** conceptual designs were created for the hypothetical sites. Features are clustered by type of activity or vehicle, are centralized near parking and entryways, and are strategically sited to avoid sensitive resources and minimize impacts such as noise at adjacent properties. Site conditions such as terrain, adjacent land use, and sensitive ecological areas were key considerations in all the designs. Additionally, each site features youth practice tracks and bicycle areas near parking/staging areas to accommodate families and youth riders.

Three concept plans were created, combining a variety of potential site conditions.

PRIMARY DESIGN CRITERIA

Each park layout is designed with safety, environmental sustainability, and user experience in mind, and with the assumption that each site would be close to urbanized areas and accessible for quick day use. The plans emphasize family-friendly amenities, diverse riding experiences, and environmental considerations. Each site includes open parking/staging areas, restrooms, and picnic areas and the medium and large sites include additional facilities such as a concessions building. All the sites provide tracks and trails for a variety of users including youth, motorcycles, and ATVs. The larger sites include added features for four-wheel-drive vehicles.

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7.2 Small Site

Overview of Park Design

The small site covers 200 acres and is located near an existing residential area. Given its proximity to housing across the main roadway, noise and dust mitigation were key considerations. The site layout uses existing site features such as hills and vegetation as natural buffers to address these concerns. The site has multiple ESAs (Environmentally Sensitive Areas), and protective measures include planted buffers, fencing, and leveraging the site's topography to create natural separation, in addition to minimizing drainage crossings. **Figure 7-1** shows the conceptual plan for the small OHV site.

Designed primarily for youth riders, motorcycles, and ATVs, the small site covers 200 acres and is located near an existing residential area.

Program and Rider Types

The site is designed primarily for youth riders, motorcycles, and ATVs. The steep topography central to the site naturally segments open trail areas, allowing for different trail styles that cater to various OHV types, increasing overall safety. A black diamond trail (see **Table 6-2** for Trail Rating System) connects the two separate trail riding areas, providing a challenging experience for skilled riders while maintaining a variety of terrain options for others.

Key Features, Pros and Cons

This site benefits from natural buffers that help mitigate impacts while offering a family-friendly atmosphere and dedicated amenities. The segmented trails enhance safety by allowing different OHV types to be separated. However, due to space constraints, this site offers fewer features compared to the larger sites and lacks opportunities for longer trail rides.

7.3 Medium Site

Overview of Park Design

The medium-sized site includes a small portion of paved entry roadway within its boundaries, which connects the parking lots and creates a protected area for a youth practice track. This site includes enough area to provide longer riding experiences, with multiple loops options, making it well suited for riders seeking a variety of terrain experiences. Due to the large number of onsite drainages, trail riding areas occur in clusters that provide their own loops but connect to each other with limited drainage crossings so riders can string together longer routes throughout the site. The trail system could also be separated into trails for different OHV vehicles to enhance safety and usability. The site is adjacent to ESAs, and protective measures include planted buffers and fencing. **Figure 7-2** shows the conceptual plan for the medium OHV site.

Designed for youth riders, motorcycles, ATVs, and some four-wheel-drive vehicles, the medium site is 600 acres.

Program and Rider Types

Designed for youth riders, motorcycles, ATVs, and some four-wheel-drive vehicles, the site offers a broad range of opportunities. Features are strategically clustered near the parking lot and internal roadway, providing easy access before riders branch out into the open trail areas. Black diamond trails take advantage of the site's dramatic topography, creating a challenging experience for advanced riders.

Key Features, Pros and Cons

This site's greatest strengths lie in its large trail network and the diverse riding opportunities it provides. The youth practice track is protected with the internal roadway, providing a more controlled environment to promote safety. Dividing the trail network by OHV type enhances safety and user experience. However, the high number of natural drainages onsite poses challenges for trail design and maintenance, requiring careful consideration of environmental impacts. This site includes more infrastructure than the small site, which increases development complexity and cost.

7.4 Large Site

Overview of Park Design

The large site is the most expansive, with varied terrain, including multiple valleys. The site includes ESAs, and protective measures include planted buffers, fencing, minimizing drainage crossings, and leveraging the site's topography to create natural separation. For example, a prominent valley runs through the center of the site, and the design places fencing along the ridgelines to protect sensitive resources in the valley. This site is designed to offer a diverse and scenic riding experience, with natural topography playing a key role in trail placement and user enjoyment. Most drainages onsite lead to the central valley, making it especially important to minimize riding impacts and restrict crossing of drainages wherever possible. **Figure 7-3** shows the conceptual plan for the large OHV site.

At 900 acres, the large site is the most expansive, accommodating youth riders, motorcycles, ATVs, and dedicated four-wheel-drive vehicle tracks.

Program and Rider Types

This site accommodates youth riders, motorcycles, ATVs, and dedicated four-wheel-drive vehicle tracks. Amenities include expanded parking, restrooms, and picnic areas, as well as opportunities for vehicle parts and food concessions kiosks. These additional amenities would be particularly beneficial if the site is located further from urban centers. The trail system is designed with two distinct open trail areas catering to different vehicle types. Riders can enjoy scenic views from elevated areas while experiencing varied terrain challenges.

Key Features, Pros and Cons

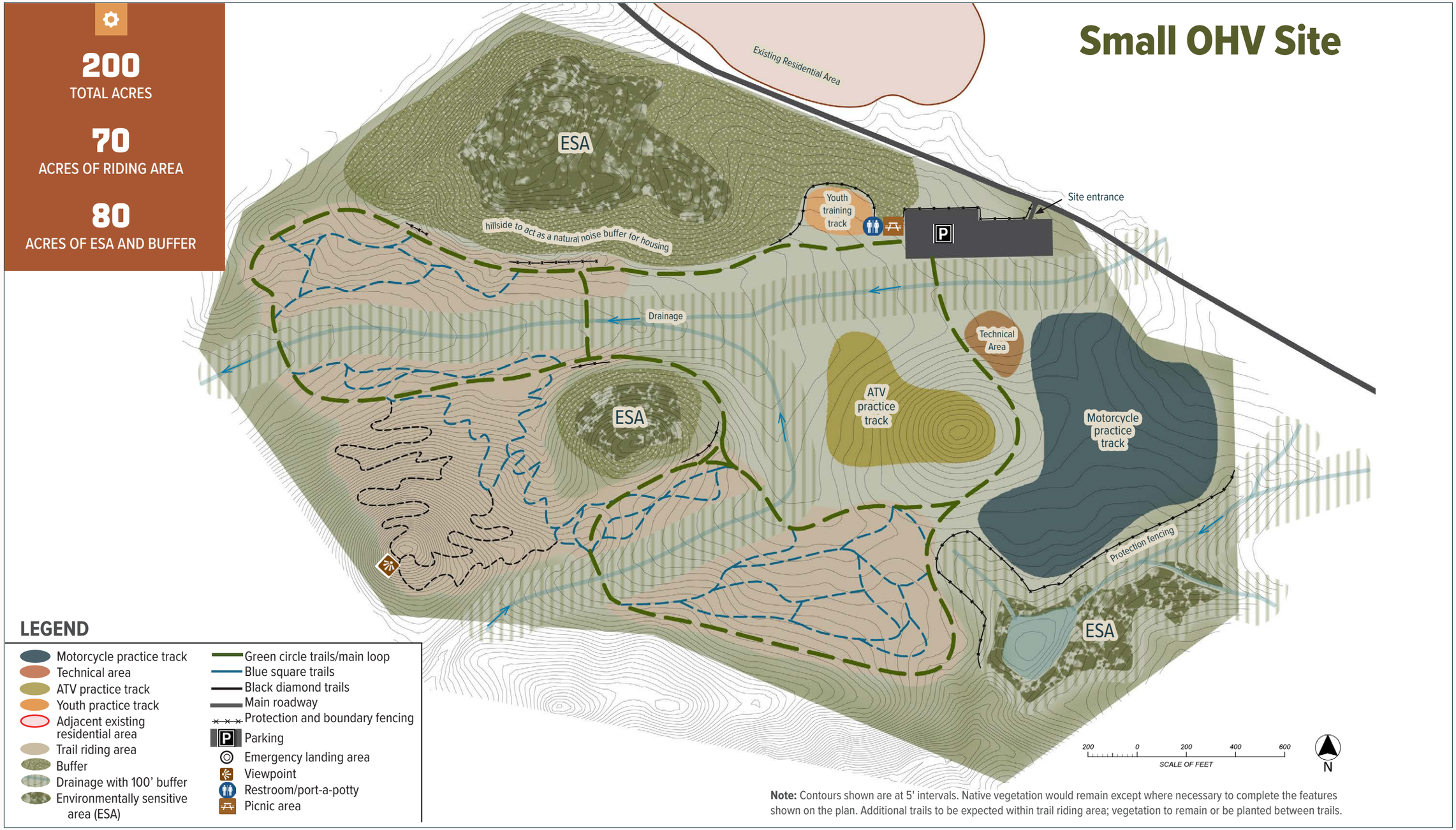
With extensive riding features and an abundance of trail options, this configuration offers the most diverse experience for users. The inclusion of commercial amenities enhances convenience for visitors, particularly those traveling from a distance. The scenic views and varied landscapes make this site especially attractive to riders. However, the large footprint could require significantly more protection of sensitive areas and resources, including drainage crossings. This site includes more infrastructure than the other sites, which increases development complexity and cost, and the maintenance demands for a site of this scale would also be considerably higher.

Small OHV Site

200
TOTAL ACRES

70
ACRES OF RIDING AREA

80
ACRES OF ESA AND BUFFER



LEGEND

- Motorcycle practice track
- Technical area
- ATV practice track
- Youth practice track
- Adjacent existing residential area
- Trail riding area
- Buffer
- Drainage with 100' buffer
- Environmentally sensitive area (ESA)
- Green circle trails/main loop
- Blue square trails
- Black diamond trails
- Main roadway
- Protection and boundary fencing
- Parking
- Emergency landing area
- Viewpoint
- Restroom/port-a-potty
- Picnic area

Note: Contours shown are at 5' intervals. Native vegetation would remain except where necessary to complete the features shown on the plan. Additional trails to be expected within trail riding area; vegetation to remain or be planted between trails.

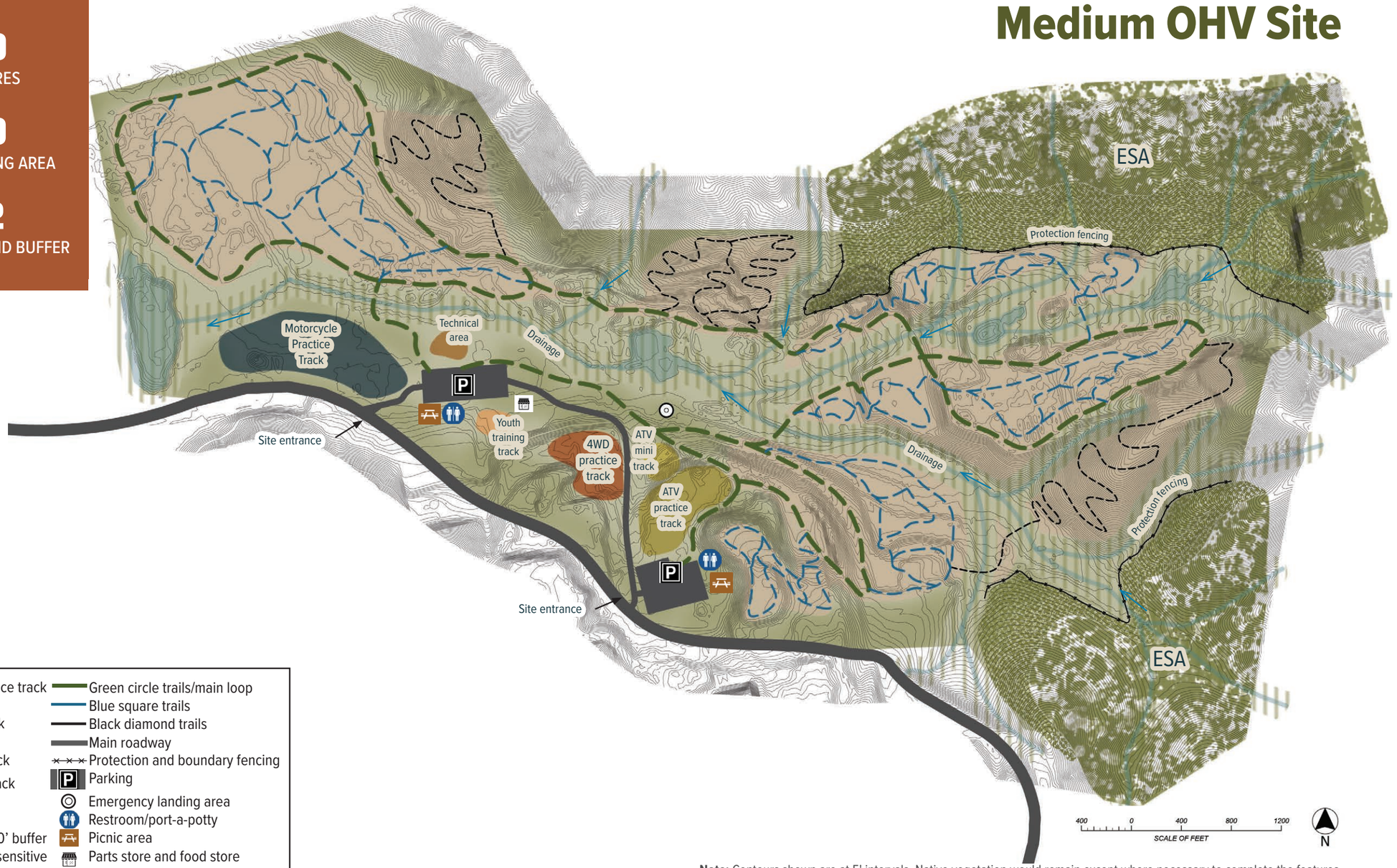
Figure 7-1. Small OHV Site Conceptual Plan

Medium OHV Site

600
TOTAL ACRES

280
ACRES OF RIDING AREA

212
ACRES OF ESA AND BUFFER



LEGEND

- Motorcycle practice track
- Technical area
- ATV practice track
- ATV mini track
- 4WD practice track
- Youth practice track
- Trail riding area
- Buffer
- Drainage with 100' buffer
- Environmentally sensitive area (ESA)
- Green circle trails/main loop
- Blue square trails
- Black diamond trails
- Main roadway
- Protection and boundary fencing
- Parking
- Emergency landing area
- Restroom/port-a-potty
- Picnic area
- Parts store and food store or concession stand

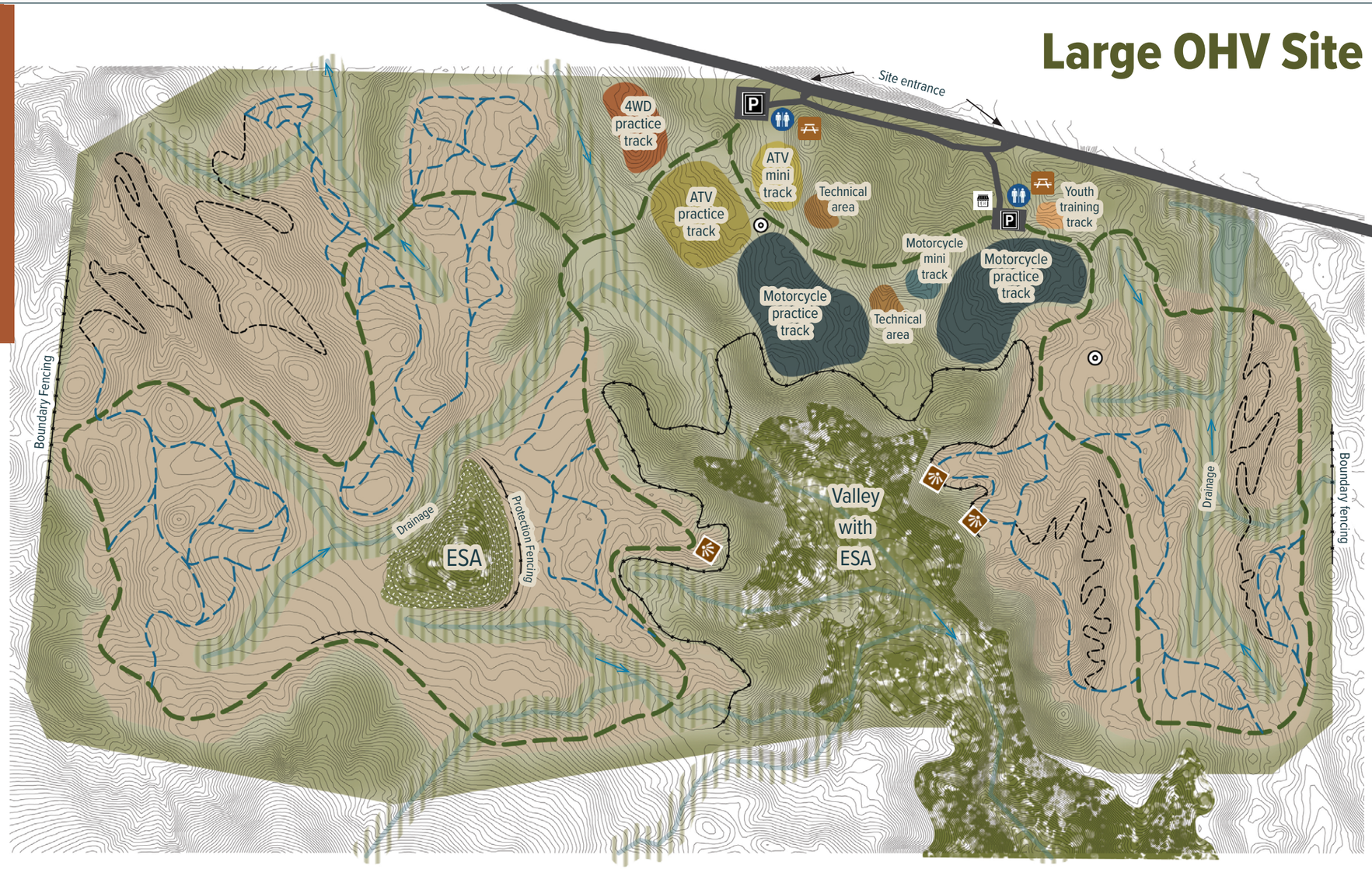
Note: Contours shown are at 5' intervals. Native vegetation would remain except where necessary to complete the features shown on the plan. Additional trails to be expected within trail riding area; vegetation to remain or be planted between trails.

Figure 7-2. Medium OHV Site Conceptual Plan

900
TOTAL ACRES

596
ACRES OF RIDING AREA

200
ACRES OF ESA AND BUFFER



Note: Contours shown are at 5' intervals. Native vegetation would remain except where necessary to complete the features shown on the plan. Additional trails to be expected within trail riding area; vegetation to remain or be planted between trails.

Figure 7-3. Large OHV Site Conceptual Plan

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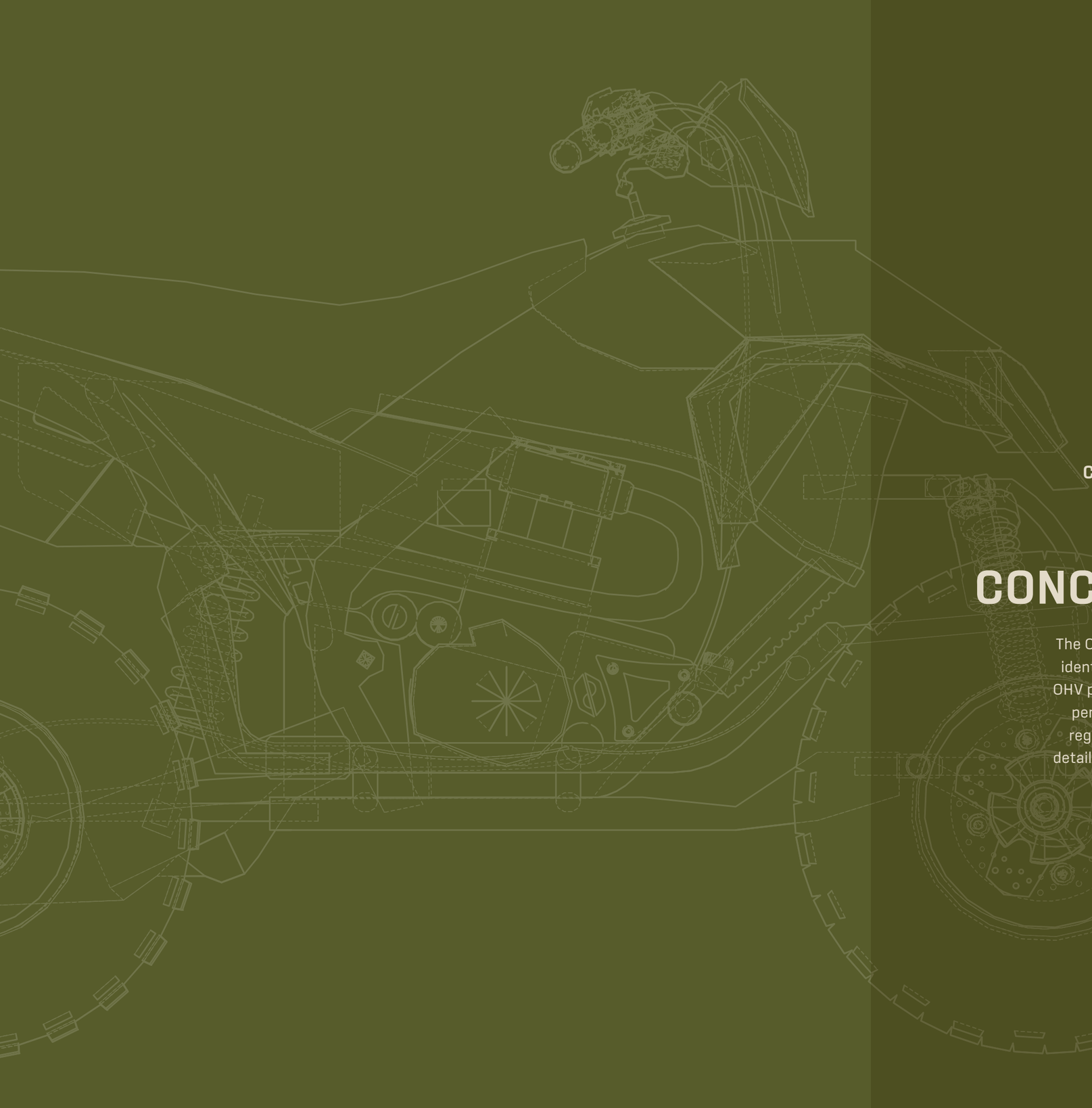

COUNTY OF SAN DIEGO OHV PARK FEASIBILITY STUDY

CHAPTER 8
CONCLUSION AND NEXT STEPS

The OHV feasibility study found considerable interest in an OHV park and identified several potential sites. Next steps towards creating a County OHV park include securing funding for additional studies, land acquisition, permitting, and design; exploring potential partnerships; conducting regulatory compliance and permitting; developing a site program and detailed design; and continued outreach and coordination with the public, stakeholders, and other County agencies.


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8.0 CONCLUSION AND NEXT STEPS

8.1 Summary of Findings

The planning process conducted for this feasibility study has provided several important conclusions and results, including:

The study provided detailed insights into the size and location of a potential OHV park in the county.

- OHV recreation is very popular in San Diego County. OHV vehicle registrations and the market study and public outreach conducted as part of this feasibility study all support the conclusion that there is unmet demand for OHV recreation in the county.
- Feedback received from public outreach indicated the greatest unmet need for OHV recreation is riding opportunities close to the homes of OHV users. All existing OHV parks in the county require lengthy drives that limit the viability of short-duration or day trips to recreate.
- A complex and comprehensive analysis of the entire county, which considered administrative, ecological, planning, and practical considerations, identified eight sites with potential for development as an OHV park.
- All sites identified in this study would require land acquisition from private landowners. Efforts were made to gauge landowner interest in selling their property, but responses received thus far are limited and the acquisition process could be lengthy and complex.
- All sites identified in this study are relatively small as compared to other OHV parks in California; however, there are many ways to organize uses within an OHV park to make even a small site highly valuable to the riding community. This study provides examples of the types of riding amenities that could be created and how they might be arranged on small, medium, or larger sites.
- Though the best candidate sites were identified in this study, there are significant environmental and land use concerns associated with development of an OHV park on any site. Further exploration of specific sites will require more in-depth evaluation of potential impacts to environmental resources and neighboring land uses.

The initial direction set for this feasibility study was to search for private properties that DPR could acquire, own, and operate independently without any joint use agreements with other agencies. That direction offered advantages but also created some challenges. Those challenges, along with others encountered during the process, include:

- Many of the highest scoring parcels were surrounded by low scoring parcels and were not large enough to accommodate OHV recreation.
- Few large single parcels scored high in the analysis. This led to the highest scoring site options consisting of grouping numerous parcels with different owners, increasing the difficulty of acquiring the necessary land to move forward with a site.
- Sites closer to urban areas were preferred to reduce drive times and increase day-use activities; however, narrowing the search to meet this goal further limited the number of suitable sites.

8.2 Next Steps

The next phase of the project will include securing funding to identify a potential park site, pursue acquisition, and conduct additional studies and permitting.

The next phase of the project will include securing funding to identify a potential park site, pursue acquisition, and conduct additional studies and permitting. Once a suitable site is identified, initial site design can begin.

This study originally assumed that DPR would purchase a private parcel to develop as an OHV park. Based on the research conducted through this study and clear understanding of available inventory, DPR is now open to exploring alternative approaches including further research and assessment of the nine sites identified in **Chapter 5, *Phase 2 Site Selection***, and will consider potential future opportunities that may not have been identified within the scope of this study. This includes evaluating joint-use opportunities and partnerships that may reduce acquisition costs, speed up implementation, or improve long-term site management. These alternatives could offer more flexible, cost-efficient pathways forward.

Types of Partnerships under Consideration

The next phase will explore a range of partnership models to identify suitable sites for OHV recreation, including:

- Co-management agreements with tribal governments or other jurisdictions to jointly oversee the planning, development, and operation of the park.
- Interagency agreements or Memoranda of Understanding (MOUs) with local, state, or federal agencies to identify and potentially use public lands for OHV recreation purposes.
- Federal or state co-stewardship models, where responsibilities for development and management are shared between DPR and public land agencies.
- Collaborations with nonprofits or recreation organizations that can assist with land identification, project development, maintenance, and oversight.
- Conservation-compatible land acquisitions, in which a property serves both recreational and environmental goals—developing part of the site for OHV use while preserving the rest for natural habitat or open space.

These options will be explored further in the next phase to determine the most practical and beneficial path forward for creating a successful OHV recreation park.

Funding Opportunities

To support these efforts, DPR will pursue a variety of funding sources for land acquisition, design, development, and ongoing maintenance. Potential funding opportunities may include:

- State OHV grant programs, such as those administered by state parks or resource agencies, which support planning, acquisition, and facility improvements.

- Federal recreation or land conservation grants, including programs under the Land and Water Conservation Fund, Recreational Trails Program, or Bureau of Land Management.
- Local and regional funding, including park bond measures, mitigation funds, or special district allocations.
- Public-private partnerships, where private organizations or nonprofits contribute funding, in-kind support, or management expertise.
- Tribal or intergovernmental funding collaborations, when working in partnership with other agencies or jurisdictions that may have access to distinct grant programs or capital improvement resources.

The combination of partnerships and diversified funding sources will be critical to identifying a viable site and delivering a sustainable OHV recreation facility that meets community needs and environmental goals.

Regulatory Considerations

Permitting Framework

Depending on the planning and resource conditions of the site ultimately selected, necessary discretionary permits could include permitting associated with the County's Multiple Species Conservation Program (MSCP), including conformance with the County's Biological Mitigation Ordinance. Any proposed project will require environmental analysis in conformance with the California Environmental Quality Act (CEQA). Environmental review for a site that is already disturbed or developed could be less intensive, but review for an undeveloped site containing natural or cultural resources would be quite complex and require several years to complete. Once a site is chosen, a preliminary assessment of environmental issues should be conducted, and a schedule and budget for the necessary technical studies and approvals should be prepared.

In addition to County permitting processes, state and federal permits would be required for any impacts on federally or state-protected resources.

In addition to County permitting processes, state and federal permits would be required for any impacts on jurisdictional wetlands/waters of the U.S. or to federally or state-protected resources. State and federal permits would likely include:

- Clean Water Act (CWA) Section 404 Permits from the U.S. Army Corps of Engineers (USACE): Depending on the nature of the impacts, it may be possible that a Nationwide Permit or a Regional General Permit could be applicable, but it is likely that an OHV park development project would require an Individual Permit.
- CWA Section 401 Permits from the Regional Water Quality Control Board (RWQCB): Any permit issued by USACE would require a Section 401 Water Quality Certification from the RWQCB. Review and issuance of this permit happens in parallel with USACE permitting.
- California Department of Fish and Wildlife permits: Impacts on state-regulated streams and associated resources require a Section 1601 Streambed Alteration Agreement. Review and issuance of this permit also happens in parallel with USACE and RWQCB permitting.
- Federal Endangered Species Act and California Endangered Species Act compliance: the Multiple Species Conservation Program (MSCP) adopted by the County provides coverage for projects with impacts on many federally and state-listed species, provided the project complies with MSCP requirements and is located within the area covered by the County's approved MSCP. Impacts on listed species or physical areas not covered by the MSCP would require consultation with state and federal resource agencies for a determination of necessary species-specific permitting.

Mitigation Strategies

Any impacts on sensitive resources require mitigation; onsite mitigation would be preferred for resources that can be adequately protected within park resource areas and that are not sensitive to OHV use. Offsite mitigation would be used in response to regional conservation plans or the specific needs of species. Onsite restoration of temporary impacts would be done regardless of mitigation approach.

To help offset impacts on natural resources, DPR could designate a portion of the park site to be conserved as natural area.

Technical Studies

Technical surveys for biological and cultural resources will need to be conducted, along with delineations of any wetlands or waters of the U.S. Impacts on air quality and greenhouse gas production, noise, visual resources, vehicle miles traveled, wildfire, and water quality will also need to be assessed. These will inform the CEQA process and address permitting requirements as well as provide guidance for site design. A land survey, including site topography, vegetation, and other existing features will also need to be conducted.

A real estate assessment and economic studies specific to the chosen site will also be needed, along with any other studies required by permitting agencies and/or desired by the County.

Community and Stakeholder Engagement

As DPR continues to assess the feasibility of an OHV park, potentially identifies a site, and begins planning and design, further outreach to the community and stakeholders will be critical to the project's success. Next steps are to create an outreach and engagement plan that outlines project objectives and strategy for the outreach process for all phases of the project. The plan should include methods of reaching and engaging OHV users, the larger community, and key stakeholders.

Site Design and Construction

Once a site is identified for an OHV park, DPR should use the results of the community and stakeholder engagement process, permitting parameters and mitigation strategies, the Design Guidelines and concept plans to develop a site program (list of trails and facilities) and develop the detailed site design and construction documents. Community and stakeholder outreach and collaboration with other County departments should continue during the design process.

8.3 Resources

Many resources exist that can help DPR with the next steps for planning, design, and construction of an OHV park. This section lists some key resources.

Trails Organizations

- American Trails is a non-profit organization serving those who use, design, and maintain motorized and non-motorized trails across the nation. American Trails connects organizations, agencies, and communities with the education, data, and people they need to create an extensive infrastructure of easily accessible, well-maintained trails and greenways in cities, rural areas, and wild places. https://www.americantrails.org
- California Off Road Vehicle Association is a diverse group of outdoor recreationalists who are extremely active in promoting the positive aspects of vehicular access on public lands and protecting that right. The group is composed of the owners of "Green Sticker" vehicles such as ATVs, motorcycles, three-wheelers, trail bikes, and dune buggies, as well as "street legal" 4x4 vehicles, dual sport motorcycles, baja and desert racers, and snowmobiles. https://www.corva.org
- The National Off Highway Vehicle Conservation Council (NOHVCC) is a national body of OHV recreation enthusiasts that develops and provides a wide spectrum of programs, materials, and information, or "tools," to individuals, clubs, associations, and agencies to further a positive future for responsible OHV recreation. https://www.nohvcc.org
- Offroaders.com is a website that lists 4x4 clubs across the nation, with a section for California clubs. https://www.offroaders.com/4x4-trails/california-4x4-off-road-clubs-directory/#google_vignette
- San Diego 4-Wheelers Association, Inc., is dedicated to the promotion and participation in safe and responsible off-highway four-wheel-drive activities and to public education on how to properly use and conserve our lands. https://www.sd4wheel.com
- Tread Lightly! is a non-profit organization that leads a national initiative to promote the responsible use of motorized vehicles when recreating outdoors. Their goal is to balance the off-road and OHV users' need for adventure with the need to conserve the places where they ride and explore. https://treadlightly.org

Trails Resources

- Great Trails is a resource guide by NOHVCC for the design, planning, construction, maintenance, and management of quality OHV trail systems that are sustainable and fun to ride. https://cdn2.assets-servd.host/old-sambar/dev/images/GreatTrails-NOHVCC.pdf?dm=1633108986
- Responsible Rider Master Class is a free series of online trainings from Tread Lightly! that aims to empower OHV riders to ride safely and responsibly. https://treadlightly.org/brp-and-tread-lightly-launch-the-responsible-rider-masterclass

Signage Resources

- Tread Lightly! Media Library provides trail signs and posters related to responsible OHV riding: https://treadlightly.org/education/signage/

- Gibson, David. *The Wayfinding Handbook: Information Design for Public Places*. Princeton Architectural Press. 2009.
- Veverka, John A. *The Interpretive Trails Book: Effective Planning and Design*. MuseumsEtc. 2015.

The **County of San Diego Department of Parks and Recreation (DPR)** enhances the quality of life for County residents and visitors of all ages. We promote health and wellness, safe communities and civic pride through thousands of programs across San Diego including festivals, hikes and rides, educational events and activities for youth, three strategically located recreation centers, and multiple state-of-the-art sports complexes. Daily programs enrich the lives of all patrons with a special focus on families, seniors, people with disabilities and at-risk youth.

Our award-winning park system features **159 facilities across more than 59,000 acres of land**, including parks, camping parks, sports parks, community centers, open space preserves and historic sites. Nearly **400 miles of trails** take visitors through multiple climates and habitats—from the coast to the desert and the valleys to the mountains.

COUNTY OF SAN DIEGO | COUNTY OF SAN DIEGO PARKS AND RECREATION