Red Sticker Appendix D - OHMC Survey Report

March 5, 2019
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Executive Summary

In 2013, California Air Resources Board (CARB) staff presented to the Board a regulatory proposal to control evaporative emissions from off-highway recreational vehicles (OHRV). At that time, the Board approved the proposal for more stringent evaporative controls for certified emissions-compliant OHRV models only. The new evaporative standards do not apply to OHRV that are certified with no emissions controls, which are commonly referred to as red sticker vehicles. The Board directed CARB staff to conduct an assessment of the emissions impact of these uncontrolled red sticker OHRV. A primary component of this assessment was an off-highway motorcycle (OHMC) owner survey. The purpose of this survey was to:

- quantify OHMC usage and activity
- understand the differences in OHMC seasonal operation
- evaluate the effectiveness of the red sticker program, and
- update the emissions inventory

Owners were asked to answer questions to better understand OHMC characteristics, usage, activity, and rider preferences. The survey included 21 questions pertaining to the specific OHMC referenced on the postcard and identified at the beginning of the survey. Responses were received from over 3,000 OHMC riders in California.

The majority of OHMCs owners in California primarily used their vehicle for recreational purposes. Only 7 percent of red sticker OHMC owners used their vehicle for competition, while 90 percent of red sticker owners used their red sticker OHMC primarily for recreation. Red sticker owners registered in ozone non-attainment areas rode during the summer by either operating on private land (54 percent) traveling further to ride (43 percent) or operating on unenforced public land (25 percent).

Note: The complete survey questionnaire is included in Appendix 1 of this document for reference.

Methodology

The University of California, Davis, conducted an online survey of registered OHMCs in California in collaboration with CARB. Survey questions were developed with extensive input from industry members along with California State Parks Off-Highway Motor Vehicle Recreation Division (OHMVR). Postcards were mailed to OHMC owners as an invitation to participate in the online survey. State Parks OHMVR provided day-use passes as an incentive to respondents.

Sample Selection

The 2013 Department of Motor Vehicles (DMV) registration database was utilized to select the survey population. Data used from the DMV registration database included OHMC make, model, model year, registration status code, county of residence, and mailing address. A random sample representative of
OHMC riders in California was selected based on three factors: spatial allocation, registration status, and OHMC type.

Each rider’s location was determined by the county in which the rider was registered. Samples were targeted to mimic the distribution of riders in the state. Both actively and inactively registered OHMC owners were surveyed in order to evaluate operational patterns for all types of registration status.

Four distinct OHMC types were surveyed: red sticker, green sticker, dual sport, and historic. OHMCs are certified as red sticker if they do not meet emissions standards; these bikes are also subject to seasonal usage restrictions in areas of the state that do not meet federal ozone standards. OHMCs that are compliant with emissions standards are certified as green sticker and can be used statewide without seasonal restrictions. Historic OHMCs include model year 1997 and older OHMCs. Dual sport are registered for on-road riding and therefore comply with the more stringent on-road emissions standards.

Response number quotas were established for each OHMC type with input from California State Parks, members of industry, and UC Davis. Quotas were defined as targets representative of the 2013 DMV registration for OHMCs in California. The response target was 2,900 OHMCs statewide, with 1,200 red sticker, 720 green sticker, 480 dual sport, and 500 historic motorcycles that were sold prior to the implementation of exhaust emissions standards in 1997.

A pilot sample of 2,000 riders was conducted to evaluate response rates. Based on the response rate observed during the pilot sample, it was estimated that distributing 46,247 postcards would meet the survey response number requirements to constitute a representative statewide sample of OHMC riders. In total, 2,274 day use passes were provided to respondents that completed the survey. More than 700 additional respondents completed the survey but declined the offer of a free day use pass.
**Postcard Design**

An initial and final reminder postcard was sent to each surveyed rider. Postcards were not branded with the CARB logo in an attempt to remove bias that riders may have toward CARB. California State Parks OHMVR provided free day use passes for any off-highway vehicle (OHV) park in California as an incentive for OHMC owners to participate in the survey. Approximately half of the postcards were mailed with language denoting a “free gift valued at $5”, the remaining postcards marked an incentive of a “free day use pass to any California State Park State Vehicular Recreational Area”.

**Figure 1a. Front of postcard used in the survey is the front of the postcard.**
To access the online survey please visit the following site and enter the access code provided below:

https://surveys.ucdavis.edu/OHRV

Online Survey Access Code:

XXXXXXXXXX
Owner of 2010 SUZUKI DR-Z40
1000 SUNSHINE BLVD
SACRAMENTO, CA 95811

Questions, Comments, or Concerns?
Please call (916) 322-2411

---

To access the online survey please visit the following site and enter the access code provided below:

https://surveys.ucdavis.edu/OHRV

Online Survey Access Code:

XXXXXXXXXX
Owner of 2010 SUZUKI DR-Z40
1000 SUNSHINE BLVD
SACRAMENTO, CA 95811

Questions, Comments, or Concerns?
Please call (916) 322-2411 or e-mail OHVsurvey@gmail.com

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The University of California, Davis is hosting a survey of off-highway vehicle (OHV) owners to better understand the usage and activity of these vehicles in California.

Please complete the survey as soon as possible, as space is limited. Upon completion of this survey you will receive a free gift (valued at $5).

Questions, Comments, or Concerns?
Please call (916) 322-2411

---
**Timeline**

The pilot sample of 2,000 riders was conducted in March 2015. Initial postcards for the primary survey of 46,427 riders began mailing in November 2015. Final reminder postcards finished mailing in May 2016. The online survey closed in June 2016. A small, supplemental activity survey was conducted in January 2017. (See Appendix 2)

**Response Evaluation Procedure**

CARB staff reviewed the entire OHMC survey response database to assess whether individual responses were valid. Responses deemed to be invalid were excluded from the final survey results. A total of 51 responses were removed from the full survey response population of 3,245. Detailed reasons for respondent removal from the analyzed sample population included:

- Data from incorrect vehicle types (on-road vehicles and all-terrain vehicles)
- Open response answers that:
  - Stated that the OHMC was predominantly used for on-road
  - Applied to a different vehicle than the survey intended
- Respondent began the survey but dropped out before completing question 1

The next section of this report details the breakdown of survey responses, followed by a question-by-question summary of responses.

**Survey Response Breakdown**

**By Type and Question**

In total, 3,194 rider responses were collected. The most responses were received from red sticker OHMCs (1,239), followed by green sticker (757), historic (609), and dual sport (589). Over 80 percent of respondents that began the survey completed the entire survey. For this analysis, a survey is considered to be complete after finishing Question 18. All questions following Question 18 were opinion based and the answers were used only for information gathering purposes.
Figure 2. Number of total survey responses by OHMC type. Partial responses (completed fewer than 18 questions) denoted by hatching and asterisk.

Table 1. OHMC survey responses by question.

<table>
<thead>
<tr>
<th>Survey Question</th>
<th>Red Sticker Responses</th>
<th>Green Sticker Responses</th>
<th>Dual Sport Responses</th>
<th>Historic Responses</th>
<th>Grand Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>GI</td>
<td>1239</td>
<td>757</td>
<td>589</td>
<td>609</td>
<td>3194</td>
</tr>
<tr>
<td>1</td>
<td>1168</td>
<td>724</td>
<td>567</td>
<td>549</td>
<td>3008</td>
</tr>
<tr>
<td>2A</td>
<td>1163</td>
<td>724</td>
<td>562</td>
<td>547</td>
<td>2996</td>
</tr>
<tr>
<td>2B</td>
<td>1154</td>
<td>721</td>
<td>555</td>
<td>542</td>
<td>2972</td>
</tr>
<tr>
<td>3</td>
<td>1154</td>
<td>719</td>
<td>558</td>
<td>542</td>
<td>2973</td>
</tr>
<tr>
<td>4</td>
<td>1142</td>
<td>717</td>
<td>545</td>
<td>538</td>
<td>2942</td>
</tr>
<tr>
<td>5</td>
<td>1128</td>
<td>706</td>
<td>519</td>
<td>527</td>
<td>2880</td>
</tr>
<tr>
<td>6</td>
<td>1116</td>
<td>707</td>
<td>535</td>
<td>524</td>
<td>2882</td>
</tr>
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<td>7</td>
<td>1116</td>
<td>706</td>
<td>534</td>
<td>524</td>
<td>2880</td>
</tr>
<tr>
<td>8</td>
<td>1114</td>
<td>704</td>
<td>530</td>
<td>524</td>
<td>2872</td>
</tr>
<tr>
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<td>1112</td>
<td>702</td>
<td>528</td>
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<td>2866</td>
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<tr>
<td>10</td>
<td>1097</td>
<td>690</td>
<td>517</td>
<td>517</td>
<td>2821</td>
</tr>
<tr>
<td>11</td>
<td>1009</td>
<td>640</td>
<td>478</td>
<td>487</td>
<td>2614</td>
</tr>
<tr>
<td>11A</td>
<td>1009</td>
<td>640</td>
<td>478</td>
<td>487</td>
<td>2614</td>
</tr>
<tr>
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<td>478</td>
<td>487</td>
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<tr>
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<td>1008</td>
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<td>478</td>
<td>487</td>
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</tr>
<tr>
<td>14</td>
<td>1007</td>
<td>638</td>
<td>478</td>
<td>486</td>
<td>2609</td>
</tr>
<tr>
<td>15</td>
<td>1006</td>
<td>637</td>
<td>477</td>
<td>486</td>
<td>2606</td>
</tr>
<tr>
<td>16</td>
<td>1005</td>
<td>637</td>
<td>476</td>
<td>485</td>
<td>2603</td>
</tr>
<tr>
<td>17</td>
<td>1005</td>
<td>637</td>
<td>476</td>
<td>485</td>
<td>2603</td>
</tr>
<tr>
<td>18</td>
<td>1005</td>
<td>637</td>
<td>476</td>
<td>485</td>
<td>2603</td>
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<tr>
<td>19</td>
<td>998</td>
<td>634</td>
<td>476</td>
<td>483</td>
<td>2591</td>
</tr>
<tr>
<td>20</td>
<td>995</td>
<td>634</td>
<td>475</td>
<td>482</td>
<td>2586</td>
</tr>
</tbody>
</table>
**By Spatial Distribution**

The map below displays survey responses by county, with shading indicating the percentage of the target quota that was met for each county. In the majority of the counties, over 90 percent of the target sample population was met. Those not meeting the target had a small population of OHMC owners in the DMV database. Although the sample quota was not met in these counties, there were fewer than 5 responses remaining in each to meet the designated county sample quota.

Table 2 shows response counts by county. The counties with the most responses were Los Angeles (17 percent of total responses), San Diego (9 percent), Orange (8 percent), and San Bernardino (6 percent).

![Map of California showing survey response distribution.](image)

**Figure 3. Number of total survey responses by OHMC type. Partial responses (completed fewer than 18 questions) denoted by hatching and asterisk**
Table 2: Response counts by county.

<table>
<thead>
<tr>
<th>County</th>
<th>Responses</th>
<th>Percent of Total Responses</th>
</tr>
</thead>
<tbody>
<tr>
<td>ALAMEDA</td>
<td>132</td>
<td>4%</td>
</tr>
<tr>
<td>AMADOR</td>
<td>13</td>
<td>0%</td>
</tr>
<tr>
<td>BUTTE</td>
<td>40</td>
<td>1%</td>
</tr>
<tr>
<td>CALAVERAS</td>
<td>11</td>
<td>0%</td>
</tr>
<tr>
<td>COLUSA</td>
<td>3</td>
<td>0%</td>
</tr>
<tr>
<td>CONTRA COSTA</td>
<td>110</td>
<td>3%</td>
</tr>
<tr>
<td>EL DORADO</td>
<td>26</td>
<td>1%</td>
</tr>
<tr>
<td>FRESNO</td>
<td>23</td>
<td>1%</td>
</tr>
<tr>
<td>GLENN</td>
<td>2</td>
<td>0%</td>
</tr>
<tr>
<td>HUMBOLDT</td>
<td>9</td>
<td>0%</td>
</tr>
<tr>
<td>IMPERIAL</td>
<td>1</td>
<td>0%</td>
</tr>
<tr>
<td>INYO</td>
<td>3</td>
<td>0%</td>
</tr>
<tr>
<td>KERN</td>
<td>71</td>
<td>2%</td>
</tr>
<tr>
<td>KINGS</td>
<td>12</td>
<td>0%</td>
</tr>
<tr>
<td>LAKE</td>
<td>14</td>
<td>0%</td>
</tr>
<tr>
<td>LASSEN</td>
<td>6</td>
<td>0%</td>
</tr>
<tr>
<td>LOS ANGELES</td>
<td>543</td>
<td>17%</td>
</tr>
<tr>
<td>MADERA</td>
<td>12</td>
<td>0%</td>
</tr>
<tr>
<td>MARIN</td>
<td>25</td>
<td>1%</td>
</tr>
<tr>
<td>MARIPOSA</td>
<td>4</td>
<td>0%</td>
</tr>
<tr>
<td>MENDOCINO</td>
<td>11</td>
<td>0%</td>
</tr>
<tr>
<td>MERCED</td>
<td>12</td>
<td>0%</td>
</tr>
<tr>
<td>MONO</td>
<td>8</td>
<td>0%</td>
</tr>
<tr>
<td>MONTEREY</td>
<td>32</td>
<td>1%</td>
</tr>
<tr>
<td>NAPA</td>
<td>15</td>
<td>0%</td>
</tr>
<tr>
<td>NEVADA</td>
<td>33</td>
<td>1%</td>
</tr>
<tr>
<td>ORANGE</td>
<td>253</td>
<td>8%</td>
</tr>
<tr>
<td>PLACER</td>
<td>81</td>
<td>3%</td>
</tr>
<tr>
<td>PLUMAS</td>
<td>4</td>
<td>0%</td>
</tr>
<tr>
<td>RIVERSIDE</td>
<td>174</td>
<td>5%</td>
</tr>
<tr>
<td>SACRAMENTO</td>
<td>115</td>
<td>4%</td>
</tr>
<tr>
<td>SAN BENITO</td>
<td>14</td>
<td>0%</td>
</tr>
<tr>
<td>SAN BERNARDINO</td>
<td>176</td>
<td>6%</td>
</tr>
<tr>
<td>SAN DIEGO</td>
<td>277</td>
<td>9%</td>
</tr>
<tr>
<td>SAN FRANCISCO</td>
<td>28</td>
<td>1%</td>
</tr>
<tr>
<td>SAN JOAQUIN</td>
<td>64</td>
<td>2%</td>
</tr>
<tr>
<td>SAN LUIS OBISPO</td>
<td>63</td>
<td>2%</td>
</tr>
<tr>
<td>SAN MATEO</td>
<td>75</td>
<td>2%</td>
</tr>
<tr>
<td>SANTA BARBARA</td>
<td>72</td>
<td>2%</td>
</tr>
<tr>
<td>SANTA CLARA</td>
<td>164</td>
<td>5%</td>
</tr>
<tr>
<td>SANTA CRUZ</td>
<td>49</td>
<td>2%</td>
</tr>
<tr>
<td>SHASTA</td>
<td>24</td>
<td>1%</td>
</tr>
<tr>
<td>SISKIYOU</td>
<td>5</td>
<td>0%</td>
</tr>
<tr>
<td>SOLANO</td>
<td>37</td>
<td>1%</td>
</tr>
<tr>
<td>SONOMA</td>
<td>64</td>
<td>2%</td>
</tr>
<tr>
<td>STANISLAUS</td>
<td>47</td>
<td>1%</td>
</tr>
<tr>
<td>SUTTER</td>
<td>12</td>
<td>0%</td>
</tr>
<tr>
<td>TEHAMA</td>
<td>3</td>
<td>0%</td>
</tr>
<tr>
<td>TULARE</td>
<td>40</td>
<td>1%</td>
</tr>
<tr>
<td>TUOLUMNE</td>
<td>14</td>
<td>0%</td>
</tr>
<tr>
<td>VENTURA</td>
<td>143</td>
<td>4%</td>
</tr>
<tr>
<td>YOLO</td>
<td>20</td>
<td>1%</td>
</tr>
<tr>
<td>YUBA</td>
<td>5</td>
<td>0%</td>
</tr>
</tbody>
</table>
By Model Year

The majority of responses for OHMC types newer than 1997 were from owners of model year 2003 through 2007 OHMCs (52 percent). Most historic OHMC owners responded about OHMCs 1985 or newer (60 percent).

Figure 4. Response count by model year for red sticker, green sticker, and dual sport OHMCs

Figure 5. Response count by model year for historic OHMCs.
**By Status Code**

The majority of riders surveyed were marked as active DMV registrations, meaning they had a current registration sticker. Riders with inactive DMV registration status were also included in the survey. Inactive registrations include those with overdue/expired registration and those that have filed a planned non-operation status with DMV. Dual sport status codes were not available for this study.

<table>
<thead>
<tr>
<th>DMV Registration Status</th>
<th>Active</th>
<th>Inactive</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green Sticker</td>
<td>86%</td>
<td>14%</td>
</tr>
<tr>
<td>Red Sticker</td>
<td>83%</td>
<td>17%</td>
</tr>
<tr>
<td>Historic</td>
<td>76%</td>
<td>24%</td>
</tr>
</tbody>
</table>

**Survey Responses by Question**

Survey results by question are presented below. Questions are displayed in italics in the order they were asked, exactly as they were asked throughout the online survey. Results are generally presented by OHMC type.

**General Information Question: OHMC Primary Function**

_Q: What is the primary function of the vehicle listed above?_

Over 90 percent of red sticker, green sticker, and historic OHMC respondents use their OHMC primarily for recreation. Seven percent of red sticker owners noted their OHMC is primarily used for competition purposes, compared to 1 percent of green sticker and 2 percent of historic OHMC owners. Twenty-one percent of dual sport owners primarily operate on-road.

*Figure 6. OHMC primary function by OHMC type.*
**Question 1: Characteristics Influencing OHMC Purchase**

*Q: What are the top 3 (or more) characteristics that influenced your decision to purchase this OHRV? (Drag items from a list into the box)*

The top 3 overall factors that influenced respondents OHMC purchase were: OHMC was easy to maintain / low cost of repair, ability to ride year round on public land, and engine power.
Figure 7. Characteristics Influencing Purchase Decision of a Red Sticker Bike

Top 3 OHV Characteristics Influencing Purchase Decision (Red Sticker)

<table>
<thead>
<tr>
<th>Characteristics</th>
<th>Red Rank 3</th>
<th>Red Rank 2</th>
<th>Red Rank 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy to maintain, low cost of repair</td>
<td>15%</td>
<td>17%</td>
<td>13%</td>
</tr>
<tr>
<td>Year around riding on public land</td>
<td>8%</td>
<td>8%</td>
<td>21%</td>
</tr>
<tr>
<td>Engine Power</td>
<td>16%</td>
<td>21%</td>
<td>23%</td>
</tr>
<tr>
<td>Ability to register for on-road use</td>
<td>2%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Responsive Handling</td>
<td>18%</td>
<td>19%</td>
<td>11%</td>
</tr>
<tr>
<td>Minimal weight</td>
<td>11%</td>
<td>10%</td>
<td>7%</td>
</tr>
<tr>
<td>Cost of OHV</td>
<td>8%</td>
<td>5%</td>
<td>7%</td>
</tr>
<tr>
<td>Appropriate Size for Child</td>
<td>2%</td>
<td>4%</td>
<td>7%</td>
</tr>
<tr>
<td>Suspension Travel</td>
<td>12%</td>
<td>8%</td>
<td>3%</td>
</tr>
<tr>
<td>Availability of aftermarket parts</td>
<td>6%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Ability to safely carry passengers and cargo</td>
<td>0%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Ability to make engine modifications</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>To identify with professional race teams</td>
<td>2%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Electronic engine tuning options</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>
## Top 3 OHV Characteristics Influencing Purchase Decision (Green Sticker)

<table>
<thead>
<tr>
<th>Characteristic</th>
<th>GREEN RANK 3</th>
<th>GREEN RANK 2</th>
<th>GREEN RANK 1</th>
</tr>
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<tbody>
<tr>
<td>Easy to maintain, low cost of repair</td>
<td>22%</td>
<td>23%</td>
<td>16%</td>
</tr>
<tr>
<td>Year around riding on public land</td>
<td>15%</td>
<td>21%</td>
<td>27%</td>
</tr>
<tr>
<td>Engine Power</td>
<td>11%</td>
<td>10%</td>
<td>6%</td>
</tr>
<tr>
<td>Ability to register for on-road use</td>
<td>4%</td>
<td>7%</td>
<td>9%</td>
</tr>
<tr>
<td>Responsive Handling</td>
<td>10%</td>
<td>5%</td>
<td>4%</td>
</tr>
<tr>
<td>Minimal weight</td>
<td>8%</td>
<td>6%</td>
<td>4%</td>
</tr>
<tr>
<td>Cost of OHV</td>
<td>11%</td>
<td>9%</td>
<td>8%</td>
</tr>
<tr>
<td>Appropriate Size for Child</td>
<td>5%</td>
<td>9%</td>
<td>23%</td>
</tr>
<tr>
<td>Suspension Travel</td>
<td>6%</td>
<td>5%</td>
<td>1%</td>
</tr>
<tr>
<td>Availability of aftermarket parts</td>
<td>4%</td>
<td>3%</td>
<td>1%</td>
</tr>
<tr>
<td>Ability to safely carry passengers and cargo</td>
<td>1%</td>
<td>1%</td>
<td>0%</td>
</tr>
<tr>
<td>Ability to make engine modifications</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>To identify with professional race teams</td>
<td>1%</td>
<td>0%</td>
<td>0%</td>
</tr>
<tr>
<td>Electronic engine tuning options</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

*Figure 8. Characteristics Influencing Purchase Decision of a Green Sticker Bike*
Top 3 OHV Characteristics Influencing Purchase Decision (Dual Sport)

Figure 9. Characteristics Influencing Purchase Decision of a Dual Sport Bike
### Figure 10. Characteristics Influencing Purchase Decision of a Historic Bike

<table>
<thead>
<tr>
<th>Feature</th>
<th>Historic Rank 3</th>
<th>Historic Rank 2</th>
<th>Historic Rank 1</th>
</tr>
</thead>
<tbody>
<tr>
<td>Easy to maintain, low cost of repair</td>
<td>22%</td>
<td>20%</td>
<td>20%</td>
</tr>
<tr>
<td>Year around riding on public land</td>
<td>12%</td>
<td>14%</td>
<td>22%</td>
</tr>
<tr>
<td>Engine Power</td>
<td>9%</td>
<td>13%</td>
<td>13%</td>
</tr>
<tr>
<td>Ability to register for on-road use</td>
<td>6%</td>
<td>8%</td>
<td>9%</td>
</tr>
<tr>
<td>Responsive Handling</td>
<td>10%</td>
<td>10%</td>
<td>10%</td>
</tr>
<tr>
<td>Minimal weight</td>
<td>14%</td>
<td>9%</td>
<td>9%</td>
</tr>
<tr>
<td>Cost of OHV</td>
<td>8%</td>
<td>10%</td>
<td>8%</td>
</tr>
<tr>
<td>Appropriate Size for Child</td>
<td>3%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Suspension Travel</td>
<td>7%</td>
<td>6%</td>
<td>8%</td>
</tr>
<tr>
<td>Availability of aftermarket parts</td>
<td>5%</td>
<td>3%</td>
<td>3%</td>
</tr>
<tr>
<td>Ability to safely carry passengers and cargo</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>Ability to make engine modifications</td>
<td>2%</td>
<td>1%</td>
<td>1%</td>
</tr>
<tr>
<td>To identify with professional race teams</td>
<td>1%</td>
<td>2%</td>
<td>1%</td>
</tr>
<tr>
<td>Electronic engine tuning options</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
</tr>
</tbody>
</table>

*Note: The percentages indicate the proportion of respondents who considered each characteristic when making their purchase decision.*
Question 2: Hours of Operation

Q: How many hours is this OHRV ridden on a typical day of off-highway riding, not including stopping/resting time? (Drag slider to appropriate # of hours)

Respondents averaged 3.8 hours per day of riding on a typical day of off-highway riding. Red sticker owners had the highest average hours of operation (4.1) for all OHMC types.

![Bar chart showing average hours per day of riding by OHMC type.](image)

Figure 11. Average hours per day of riding by OHMC type.

Q: What is this number based on?

The majority of respondents (89 percent) estimated their hours of operation rather than using a trip meter.

<table>
<thead>
<tr>
<th></th>
<th>Red</th>
<th>Green</th>
<th>Dual Sport</th>
<th>Historic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Trip Meter</td>
<td>18%</td>
<td>12%</td>
<td>9%</td>
<td>5%</td>
</tr>
<tr>
<td>Estimate</td>
<td>82%</td>
<td>88%</td>
<td>91%</td>
<td>95%</td>
</tr>
</tbody>
</table>

Table 4. Basis for hours per day of riding value.

Question 2B: Types of Riding

Q: What percentage of this time is spent doing the following activities? (Click or drag bars to appropriate percentage - Must total 100)

For all OHMC types, the majority of riding time was spent on recreation. Red sticker riders average 6 percent of their time racing and 7 percent practicing for racing events. Green sticker and historic OHMC
riders’ average less than 6 percent total time spent racing or practicing for racing events. Dual sport riders spend, on average, 24 percent of their riding time commuting.

![Percentage of time spent on specified activities by OHMC type.](image)

**Figure 12.** Percentage of time spent on specified activities by OHMC type.

**Question 3: Miles per Day of Operation**

*Q: How many miles do you ride this OHRV on a typical day of off-highway riding? (Drag slider to appropriate # of miles)*

On a typical day of off-highway riding, the average activity was 37.5 miles per day. Red sticker owners averaged the most miles per day (39.5 miles), historic averaged the fewest (33.3 miles).
Question 4: Days per Month of Operation

Q: What are the average number of days per month you ride this OHRV off-highway during each of the following seasons? (Enter a number from 0-31)

OHMC riders operated, on average, 5 days per month per season. Red and green sticker respondents rode the fewest days in the summer and the most in the fall.

Based on the results obtained from Question #4, a supplemental survey was conducted in January 2017. See Appendix 2 for the details and results of the supplemental survey.
**Question 5: Distance Travelled to Ride**

Q: What is the average distance (in miles) that you travel from your home roundtrip to ride this OHRV off-highway during each of the following seasons? (Drag sliders to appropriate # of miles)

On average, riders in California traveled 97 miles from their home roundtrip to ride their OHMC. Red sticker riders, on average, traveled further to ride than all other OHMC riders. The distance traveled to ride is furthest in the fall and winter (100 miles).

<table>
<thead>
<tr>
<th>OHMC Type</th>
<th>Spring (miles)</th>
<th>Summer (miles)</th>
<th>Fall (miles)</th>
<th>Winter (miles)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>96</td>
<td>90</td>
<td>99</td>
<td>97</td>
</tr>
<tr>
<td>Red</td>
<td>106</td>
<td>97</td>
<td>108</td>
<td>112</td>
</tr>
<tr>
<td>Dual Sport</td>
<td>82</td>
<td>85</td>
<td>83</td>
<td>75</td>
</tr>
<tr>
<td>Historic</td>
<td>95</td>
<td>93</td>
<td>100</td>
<td>98</td>
</tr>
<tr>
<td><strong>Season Average</strong></td>
<td><strong>97</strong></td>
<td><strong>92</strong></td>
<td><strong>100</strong></td>
<td><strong>100</strong></td>
</tr>
</tbody>
</table>

**Question 6: Riding Area Usage by Season**

Q: In what seasons do you ride this OHRV off-highway at the following locations? (Select all that apply)

State operated OHV parks were the most popular public riding areas for red sticker, green sticker, and historic riders year round. US Forest Service land was the most popular public land utilized by dual sport riders. Red sticker riders operated on private tracks approximately 15 percent more frequently than green sticker and historic riders.

*Figure 15. Seasonal operation at public riding areas by OHMC type.*
Question 7: Factors Determining Riding Location

Q: What factors are most important in determining where you ride? (Select all that apply)

Factors determining riding locations for each group, in order of importance, include: riding season, length of trails, and difficulty of trails for red sticker riders; length of trails, family friendly, and difficulty of trails for green sticker riders; proximity to house, length of trails, and difficulty of trails for dual sport riders; and length of rails, proximity to house, and difficulty of trails for historic riders. Cost and race track availability were the least important factors for all OHMC types of those listed on the survey.
**Question 8: Fuel Used**

Q: How many gallons of fuel do you use for this OHRV during a typical day of off-highway riding? (Drag slider to appropriate # of gallons)

Red sticker averaged the most fuel used in a day of off-highway riding (3.5 gallons) followed by historic, dual sport, and green sticker.

![Fuel Used by OHMC Type](image)

*Figure 18. Fuel used on a day of off-highway riding by OHMC type.*

**Question 8A: Refueling Method**

Q: How do you refuel this OHRV during a typical day of off-highway riding?

Red sticker (49 percent), green sticker (47 percent), and historic (63 percent) riders primarily refueled using a portable fuel container. Dual sport riders refueled at a gas station the majority of the time (53 percent).
Question 9: Vehicle Tips

Q: How many times during a typical day of off-highway riding was this OHRV laid on its side (e.g. due to a fall, when resting, during travel, etc.)?

The majority of OHMC riders responded that they did not lay their OHMC on its side during a day of riding (61 percent). Only 25 percent of riders laid their vehicle on the side once in a day of riding.
**Question 10: Frequently Visited Riding Areas**

Q: Starting with the most frequently visited location, please select up to 5 areas you ride this OHRV?
(Scroll down or use keyboard in dropdown menu to find and add additional riding areas)

Survey respondents selected specific riding areas and results were summarized by riding area type. Red and green sticker riders most frequently visited State Vehicular Recreation Areas (SVRA) followed by Bureau of Land Management (BLM) land and US Forest Service (USFS) land. Historic riders most frequently visited BLM land and dual sport riders’ preferred USFS land.

![Figure 21. Riding areas by OHMC type.](image)

**Question 11: Participation in Competitive/Race Events**

Q: Do you ride this OHRV in organized, off-highway competitive/race events?

The majority of respondents did not ride in off-highway competitive/race events. 26 percent of red sticker respondents raced, followed by 14 percent of historic respondents, 12 percent of green sticker respondents, and 3 percent of dual sport respondents.

<table>
<thead>
<tr>
<th></th>
<th>Dual Sport</th>
<th>Green</th>
<th>Historic</th>
<th>Red</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yes, I am a non-factory sponsored professional racer</td>
<td>1%</td>
<td>1%</td>
<td>1%</td>
<td>2%</td>
</tr>
<tr>
<td>Yes, I consider myself an amateur racer</td>
<td>2%</td>
<td>11%</td>
<td>13%</td>
<td>24%</td>
</tr>
<tr>
<td>No</td>
<td>97%</td>
<td>88%</td>
<td>86%</td>
<td>74%</td>
</tr>
</tbody>
</table>

*Table 6. Participation in race/competitive events by OHMC type.*
**Question 11A: Competition/Race Frequency**

Q: In question 11, you indicated that you ride in organized competitive / race events. How many times a year do you race?

Riders that responded that they ride in competitive/race events on question 11 were asked to indicate how many times a year they race. The majority of those who raced did so 1 to 5 times per year, with the average being 7 races a year.

![Figure 22. Number of races by OHMC type.](image)

**Question 12: County Stored**

Q12: What county is this OHRV primarily stored in?

OHMC owners responded that they stored their vehicle in the county that they were registered 94.5 percent of the time. The remaining 5.5 percent stored their OHMC in a county different than where they were registered.

**Question 13: Days of Week Operated**

Q13: What days of this week do you primarily ride this OHRV?

Saturday and Sunday were the most popular days of operation for OHMC owners, followed by Friday. Dual sport operated approximately 5 percent more during the week than other OHMC types.
Question 14: Fuel Tank Level

Q: On average, how full is the fuel tank in this OHRV when placed in storage?

Most commonly, red, green and historic OHMC owners stored their vehicle with the fuel tank ¼ full (31 percent). Dual sport owners typically stored their vehicle ½ full (25 percent).
**Question 15: Specific Storage Location**

*Q: Where do you primarily store this OHRV?*

Respondents generally stored their OHMCs in an attached garage (56 percent), followed by a detached garage (21 percent).

*Figure 25. Storage locations for all OHMC types.*

**Question 16: Engine Enhancing Modifications**

*Q: Have you performed any of the following enhancing engine modifications to this OHRV’s engine? (Check all that apply)*

Half of red sticker owners responded that they performed modifications on their exhaust system. This was also the most common modification for green sticker and historic OHMC owners. Other common modifications included suspension system (41 percent red sticker) and hand/foot controls (33 percent red sticker). Approximately 50 percent of green, historic and dual sport owners responded that they had not made any of the listed modifications, compared to 32 percent of red sticker OHMC owners.
Question 17: Maintenance Frequency

Q: How do you determine when to perform maintenance/service on this OHRV?

Most commonly, OHMC owners performed maintenance according to the manufacturer’s recommended schedule. Furthermore, at least 25 percent of each group performs maintenance on their OHMCs more often than the manufacturer’s recommended schedule. Collectively, more than 70% of all OHMCs are maintained to the manufacturer’s minimum requirements.

Table 7. Maintenance schedule by OHMC type.

<table>
<thead>
<tr>
<th>Maintenance Frequency</th>
<th>Red</th>
<th>Green</th>
<th>Dual Sport</th>
<th>Historic</th>
<th>Overall</th>
</tr>
</thead>
<tbody>
<tr>
<td>More frequently than the manufacturer’s recommended schedule</td>
<td>35%</td>
<td>26%</td>
<td>28%</td>
<td>28%</td>
<td>30.3%</td>
</tr>
<tr>
<td>According to the manufacturer’s recommended schedule</td>
<td>44%</td>
<td>49%</td>
<td>53%</td>
<td>35%</td>
<td>45.4%</td>
</tr>
<tr>
<td>When time permits</td>
<td>15%</td>
<td>15%</td>
<td>13%</td>
<td>19%</td>
<td>15.2%</td>
</tr>
<tr>
<td>When the OHRV quits running correctly</td>
<td>6%</td>
<td>10%</td>
<td>6%</td>
<td>17%</td>
<td>10.1%</td>
</tr>
</tbody>
</table>
**Question 18: Other OHRVs in Household**

*Q: Please identify any other OHRVs in your household. (Select all that apply)*

The majority of OHMC owners surveyed - 86 percent of red sticker, 87 percent of green sticker, 71 percent of dual sport, and 84 percent of historic – own another OHRV. The most common additional OHRV owned was a green sticker OHMC for red, green and historic OHMC owners. Dual sport owners were more likely to own a second dual sport bike.

*Figure 27. Additional OHRVs owned by survey respondents by OHMC type.*
Question 19: Impact of Red Sticker Program

Q: In what ways do you feel limited by California’s red-sticker program? (Select all that apply)

Red sticker owners felt the most limited by California’s red sticker program because: it reduced the number of days they rode (56 percent), they had to travel further to ride (43 percent), and they could only ride on private property/tracks during the summer (39 percent). Only 14 percent of red sticker riders did not feel limited by the red sticker program.

Figure 28. Impact of red sticker program by OHMC type.
**Question 20: Riding Area Support**

_Q: To increase the availability of public riding areas I would support: (Mark all that apply)_

Of the items listed, support for increased admission fees was the greatest (35 percent) followed by higher registration fees (19 percent). Over 40 percent of respondents indicated they would not support any of the items listed to increase the availability of public riding areas.

*Figure 29. Riding area support by OHMC type.*
**Question 21: Open Response**

Q: Do you have any additional comments regarding OHRV use that you would like to share?

This question provided an opportunity for respondents to share additional comments that might not have been addressed in the survey. In total, 1,360 comments were received. Of those evaluated, the majority related to the need for additional/closer riding areas and reductions in riding areas currently available to OHMC owners.

![Figure 30. Open response evaluation by common subject matter.](image)
Appendix 1

CARB - Primary OHMC Survey

Thanks for your willingness to participate. Unfortunately, we have already reached the maximum number of SVRA passes available for your demographic. Although no more passes are available, your response would still be appreciated if you are willing. Would you like to continue?

- Yes
- No

General Information

Please answer this survey based explicitly on the OHRV listed below (which was also listed on the postcard) over the last 12 months:

Make  Model  Year  (Survey participant would have their year/make/model auto-populated here)

Is this the correct model?

- Yes
- No

Please correctly identify your OHRV.

Make
Model
Year

What is the primary function of the vehicle listed above?

- Recreational Use – Adult
- Recreational Use – Youth
- Competition – Adult
- Competition – Youth
- Agricultural Use
- On-Road Use
- Other Utility Use
- I no longer ride this OHRV
Q1. What are the top 3 (or more) characteristics that influenced your decision to purchase this OHRV? (Drag Items from list into box)

<table>
<thead>
<tr>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>______ Engine power</td>
</tr>
<tr>
<td>______ Responsive handling</td>
</tr>
<tr>
<td>______ Suspension travel</td>
</tr>
<tr>
<td>______ Appropriate size for a child</td>
</tr>
<tr>
<td>______ Year around riding on public land</td>
</tr>
<tr>
<td>______ Ability to safely carry passengers and cargo</td>
</tr>
<tr>
<td>______ Ability to make engine modifications</td>
</tr>
<tr>
<td>______ Minimal weight</td>
</tr>
<tr>
<td>______ Electronic engine tuning options</td>
</tr>
<tr>
<td>______ Cost of OHRV</td>
</tr>
<tr>
<td>______ Ability to register for on-road use</td>
</tr>
<tr>
<td>______ Availability of aftermarket parts</td>
</tr>
<tr>
<td>______ To identify with professional race teams</td>
</tr>
<tr>
<td>______ Easy to maintain, low cost of repair</td>
</tr>
</tbody>
</table>

Q2. How many hours is this OHRV ridden on a typical day of off-highway riding, not including stopping/resting time? (Drag slider to appropriate # of hours)

Q2a. What is this number based on?
- Hour meter
- Estimate

Q2dual is only shown to dual sport riders

Q2dual How many hours is this OHRV ridden on a typical day of on-road riding, not including stopping/resting time? (Drag slider to appropriate # of hours)
Q2b. What percentage of this time is spent doing the following activities (Click or drag bars to appropriate percentage - Must total 100)

_____ Practicing for race events
_____ Racing
_____ Recreational riding
_____ Farm/Ag Use
_____ Commuting
_____ Other

Q3. How many miles do you ride this OHRV on a typical day of off-highway riding? (Drag slider to appropriate # of miles)

_____

Q3dual is only shown to dual sport riders

Q3dual How many miles do you ride this OHRV on a typical day of on-road riding? (Drag slider to appropriate # of miles)

_____

Q3a What is this number based on?
☐ Trip meter
☐ Estimate

Q4. What are the average number of days per month you ride this OHRV off-highway during each of the following seasons? (Enter a number from 0-31)

<table>
<thead>
<tr>
<th>Season</th>
<th># of days</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spring (Mar- May)</td>
<td></td>
</tr>
<tr>
<td>Summer (Jun- Aug)</td>
<td></td>
</tr>
<tr>
<td>Fall (Sep - Nov)</td>
<td></td>
</tr>
<tr>
<td>Winter (Dec- Feb)</td>
<td></td>
</tr>
</tbody>
</table>
Q5. What is the average distance (in miles) that you travel from your home roundtrip to ride this OHRV off-highway during each of the following seasons? (Drag sliders to appropriate # of miles)

- _____ Spring (Mar - May)
- _____ Summer (Jun - Aug)
- _____ Fall (Sep - Nov)
- _____ Winter (Dec - Feb)

Q6. In what seasons do you ride this OHRV off-highway at the following locations? (Select all that apply)

<table>
<thead>
<tr>
<th>Location</th>
<th>Year-round</th>
<th>Spring (Mar-May)</th>
<th>Summer (June-Aug)</th>
<th>Fall (Sept-Nov)</th>
<th>Winter (Dec-Feb)</th>
<th>Never</th>
</tr>
</thead>
<tbody>
<tr>
<td>State operated OHV parks</td>
<td></td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>BLM land</td>
<td></td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>U.S. Forest Service Land</td>
<td></td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Privately operated tracks (i.e.</td>
<td></td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>closed course)</td>
<td></td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>Private property</td>
<td></td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
<tr>
<td>County operated OHV parks</td>
<td></td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
<td>✗</td>
</tr>
</tbody>
</table>

Q7. What factors are most important in determining where you ride? (Select all that apply)

- ✗ Proximity to house
- ✗ Difficulty of trails
- ✗ Cost
- ✗ Race track availability
- ✗ Family friendly
- ✗ Riding season
- ✗ Length of trails
- ✗ Camping available
- ✗ None of the above
Q8. How many gallons of fuel do you use for this OHRV during a typical day of off-highway riding? (Drag slider to appropriate # of gallons)

______

Q8a How do you refuel this OHRV during a typical day of off-highway riding?
○ Red gas can
○ Pick-up auxiliary tank
○ RV trailer with refueling tank
○ Gas station
○ Utility jug

Q9. How many times during a typical day of off-highway riding was this OHRV laid on its side (e.g. due to a fall, when resting, during travel, etc.)?

Q10. Starting with the most frequently visited location, please select up to 5 areas you ride this OHRV. (Scroll down or use keyboard in dropdown menu to find and add additional riding areas)

<table>
<thead>
<tr>
<th>Ranking</th>
</tr>
</thead>
<tbody>
<tr>
<td>______ Private Track (not listed below)</td>
</tr>
<tr>
<td>______ Private Property</td>
</tr>
<tr>
<td>______ Carnegie</td>
</tr>
<tr>
<td>______ Clay Pit</td>
</tr>
<tr>
<td>______ Heber Dunes</td>
</tr>
<tr>
<td>______ Hollister Hills</td>
</tr>
<tr>
<td>______ Hungry Valley</td>
</tr>
<tr>
<td>______ Mammoth Bar</td>
</tr>
<tr>
<td>______ Oceano Dunes</td>
</tr>
<tr>
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______ Eugene Chappie
______ Frank Raines
______ Glen Helen Raceway
______ Hangtown MX
______ Honey Lake MX
______ Honolulu Hills
______ Lake Elsinore Motocross
______ La Grange
______ Mammoth Motocross
______ Metcalf Motorcycle Park
______ Milestone Ranch
______ Oasis Motocross
______ Pala Raceway
______ Park Moabi
______ Perris Raceway
______ Piru MX
______ Porterville OHV Park
______ Racetown 395 MX
______ Ridgecrest Motocross
______ Riverfront MX Park
______ Rubicon Trail
______ Sacramento Raceway
______ Starwest Motocross
______ Tulare Cycle Park
______ Ukiah Speedway
______ Zaca Station
______ Out of State
Q50. What percent of time do you operate your OHRV at each riding area during each of the following seasons?

______ Private Track (not listed below)
______ Private Property
______ Carnegie
______ Clay Pit
______ Heber Dunes
______ Hollister Hills
______ Hungry Valley
______ Mammoth Bar
______ Oceano Dunes
______ Ocotillo Wells
______ Prairie City
______ Arroyo Salado
______ Bishop
______ Chappie-Shasta
______ Clear Creek
______ Colorado Desert
______ Dumont Dunes
______ Eastern Mohave Desert
______ El Mirage
______ Fort Sage
______ Imperial Dunes
______ Jawbone Canyon
______ Johnson Valley
______ Knoxville
______ Lark Canyon
______ Olancha Dunes
______ Parker Strip
______ Plaster City
______ Rasor
______ Samoa Dunes
______ South Cow Mountain
______ Spangler Hills
______ Stoddard Valley
______ Superstition Mountain
______ Angeles National Forest
______ Cleveland National Forest
______ El Dorado National Forest
______ Inyo National Forest
______ Klamath
______ Los Padres National Forest
______ Mendocino National Forest
______ Plumas National Forest
Out of State
Q51. In what seasons do you ride this OHRV off-highway at the following locations?

- Private Track (not listed below)
- Private Property
- Carnegie
- Clay Pit
- Heber Dunes
- Hollister Hills
- Hungry Valley
- Mammoth Bar
- Oceano Dunes
- Ocotillo Wells
- Prairie City
- Arroyo Salado
- Bishop
- Chappie-Shasta
- Clear Creek
- Colorado Desert
- Dumont Dunes
- Eastern Mohave Desert
- El Mirage
- Fort Sage
- Imperial Dunes
- Jawbone Canyon
- Johnson Valley
- Knoxville
- Lark Canyon
- Olancha Dunes
- Parker Strip
- Plaster City
- Rasor
- Samoa Dunes
- South Cow Mountain
- Spangler Hills
- Stoddard Valley
- Superstition Mountain
- Angeles National Forest
- Cleveland National Forest
- El Dorado National Forest
- Inyo National Forest
- Klamath
- Los Padres National Forest
- Mendocino National Forest
- Plumas National Forest
- San Bernardino National Forest
Sequoia National Forest
Sierra National Forest
Six Rivers
Stanislaus National Forest
Shasta-Trinity National Forest
Tahoe National Forest
408 MX
Argyll MX Park
AV Motoplex Motocross
Barona Oaks
Black Butte Lake
Cahuilla Creek
Cal City MX Park
Club Moto
Competitive Edge MX
Cycleland Speedway
E Street MX
Eugene Chappie
Frank Raines
Glen Helen Raceway
Hangtown MX
Honey Lake MX
Honolulu Hills
Lake Elsinore Motocross
La Grange
Mammoth Motocross
Metcalf Motorcycle Park
Milestone Ranch
Oasis Motocross
Pala Raceway
Park Moabi
Perris Raceway
Piru MX
Porterville OHV Park
Racetown 395 MX
Ridgecrest Motocross
Riverfront MX Park
Rubicon Trail
Sacramento Raceway
Starwest Motocross
Tulare Cycle Park
Ukiah Speedway
Zaca Station
Out of State
Q10b. is shown if the rider indicated in Q10 that they ride on private tracks
Q10b In question 10, you indicated that you ride off-highway on a private track(s). Please provide the name(s) of the private track(s).

Q10c. is shown if the rider indicated in Q10 that they ride on private tracks
Q10c You indicated that you ride on the private track named "${lm://Field/1}". Please state the county of the track.
- Alameda County
- Alpine County
- Amador County
- Butte County
- Calaveras County
- Colusa County
- Contra Costa County
- Del Norte County
- El Dorado County
- Fresno County
- Glenn County
- Humboldt County
- Imperial County
- Inyo County
- Kern County
- Kings County
- Lake County
- Lassen County
- Los Angeles County
- Madera County
- Marin County
- Mariposa County
- Mendocino County
- Merced County
- Modoc County
- Mono County
- Monterey County
- Napa County
- Nevada County
- Orange County
- Placer County
- Plumas County
- Riverside County
- Sacramento County
- San Benito County
- San Bernardino County
- San Diego County
- City and County of San Francisco
- San Joaquin County
- San Luis Obispo County
- San Mateo County
- Santa Barbara County
- Santa Clara County
- Santa Cruz County
- Shasta County
- Sierra County
- Siskiyou County
- Solano County
- Sonoma County
- Stanislaus County
- Sutter County
- Tehama County
- Trinity County
- Tulare County
- Tuolumne County
- Ventura County
- Yolo County
- Yuba County
Q10d. In question 10, you indicated that you ride off-highway on private properties. Please state the counties of the operation. (Please select as many as is applicable. Multiple counties may be selected by using the Ctrl key)

- Alameda County
- Alpine County
- Amador County
- Butte County
- Calaveras County
- Colusa County
- Contra Costa County
- Del Norte County
- El Dorado County
- Fresno County
- Glenn County
- Humboldt County
- Imperial County
- Inyo County
- Kern County
- Kings County
- Lake County
- Lassen County
- Los Angeles County
- Madera County
- Marin County
- Mariposa County
- Mendocino County
- Merced County
- Modoc County
- Mono County
- Monterey County
- Napa County
- Nevada County
- Orange County
- Placer County
- Plumas County
- Riverside County
- Sacramento County
- San Benito County
- San Bernardino County
- San Diego County
- City and County of San Francisco
- San Joaquin County
- San Luis Obispo County
Q11. Do you ride this OHRV in organized, off-highway competitive/race events?
- Yes, I am a non-factory sponsored professional racer
- Yes, I am a factory sponsored professional racer
- Yes, I consider myself an amateur racer
- No

Q11a. is shown if the rider answered Yes to Q11.

Q11a. In question 11, you indicated that you ride in organized competitive / race events. How many times a year do you race?

______
Q12. What county is this OHRV primarily stored in?
- Alameda County
- Alpine County
- Amador County
- Butte County
- Calaveras County
- Colusa County
- Contra Costa County
- Del Norte County
- El Dorado County
- Fresno County
- Glenn County
- Humboldt County
- Imperial County
- Inyo County
- Kern County
- Kings County
- Lake County
- Lassen County
- Los Angeles County
- Madera County
- Marin County
- Mariposa County
- Mendocino County
- Merced County
- Modoc County
- Mono County
- Monterey County
- Napa County
- Nevada County
- Orange County
- Placer County
- Plumas County
- Riverside County
- Sacramento County
- San Benito County
- San Bernardino County
- San Diego County
- City and County of San Francisco
- San Joaquin County
- San Luis Obispo County
- San Mateo County
- Santa Barbara County
- Santa Clara County
- Santa Cruz County
- Shasta County
- Sierra County
- Siskiyou County
- Solano County
- Sonoma County
- Stanislaus County
- Sutter County
- Tehama County
- Trinity County
- Tulare County
- Tuolumne County
- Ventura County
- Yolo County
- Yuba County
- Out of State
Q13. What days of the week do you primarily ride this OHRV
☐ Monday
☐ Tuesday
☐ Wednesday
☐ Thursday
☐ Friday
☐ Saturday
☐ Sunday

Q14. On average, how full is the fuel tank in this OHRV when placed in storage?
☐ Empty - run dry
☐ Empty - not run dry
☐ 1/4 Full
☐ 1/2 Full
☐ 3/4 Full
☐ Full

Q15. Where do you primarily store this OHRV?
☐ Attached garage - insulated
☐ Attached garage - uninsulated
☐ Detached garage - insulated
☐ Detached garage - uninsulated
☐ Car port
☐ Shed
☐ Trailer
☐ Inside house or apartment
☐ Outside
Q16. Have you performed any of the following enhancing engine modifications to this OHRV’s engine? Check all that apply

- Race or aviation fuel
- Ignition system
- Fuel storage system
- Engine internals
- Air intake system
- Engine cooling system
- Suspension system
- Hand/foot controls
- Fuel induction/delivery system
- Final Drive
- Exhaust system
- None of the above

Q17. How do you determine when to perform maintenance/service on this OHRV?

- According to the manufacturer’s recommended schedule
- More frequently than manufacturer’s recommended schedule
- When time permits
- When the OHRV quits running correctly

Q18. Please identify any other OHRVs in your household. (Select all that apply)

- Off-Highway Motorcycle(s) (Green Sticker)
- Off-Highway Motorcycle(s) (Red Sticker)
- Off-Highway Motorcycle(s) (Unregistered)
- Dual Sport(s) (Street legal for on/off highway use)
- Side-By-Side(s) / UV(s) / ROV(s) (steering wheel/non-straddle seat)
- ATV(s) (handle bars/straddle seat)
- Sand Car(s) / Dune Buggy(ies)
- Snowmobile(s)
- Mini Bike(s) (Pit Bike)
- No other vehicles

Q18a. What percentage of your total annual off-highway riding time is each OHRV in your household used?  (Click or drag bars to appropriate percentage - Must total 100)

______ (each selection chosen in Q18 populates here)
Q19. In what ways do you feel limited by California’s red-sticker program? (Select all that apply)
- Have to travel further to ride
- Reduces number of days I ride
- Can only ride on private property/tracks during summer
- Can only ride in unenforced public areas during summer
- Do not operate vehicle all summer
- Difficult to understand when I can ride
- Do not feel limited
- Other ____________________

Q20. To increase the availability of public riding areas I would support: (Mark all that apply)
- Increased riding area admission fees
- New electric OHRV parks
- Up to 10% increase in OHRV cost
- Higher Registration Fees
- None of the above
- Other ____________________

Feedback: You are almost finished. One last question.

Q21. Do you have any additional comments regarding OHRV use that you would like to share?
- No thanks

Q22. Congratulations! You have completed the OHRV survey and qualify to receive a free day use pass to any California State Park State Vehicular Recreational Area (SVRA). How would you like to receive your pass?
- Electronically, delivered by email
- Electronically, now as a printable image
- Physical pass delivered by mail
- I'm not interested in receiving the pass

Q22a. shown if rider chooses to receive a free day use pass
Q22a Please provide your email address to receive your Free State Park day pass: Required

Q22b. shown if rider indicates they would like their free day pass sent by mail
Q22b. Please provide your mailing address to receive your Free State Park day pass. Required
- Name
- Address
- Address 2
- City
- State
- Postal Code
Appendix 2

CARB - Supplemental OHMC Survey (January 2017)

Initial Activity Analysis

A subset of the primary survey questions involved numerical responses used to calculate OHMC activity. These questions included: hours per day of off-road riding, miles per day of off-road riding, and days per month of off-road operation. Responses for these questions were evaluated by plotting frequency distributions and comparing response trends with the 2009 California off-highway vehicle survey conducted by California State University, Sacramento. A total of 444 OHMC owner responses from the 2009 survey were used for comparison.

![Average OHMC Survey Responses 2009 vs. 2016](image)

*Figure A2-1: Survey response comparison between 2009 and 2016 surveys.*

Results were reasonable and similar between the two surveys except for the days of off-road operation as shown circled above in Figure A2-1. This question was potentially misinterpreted by some respondents who may have answered with days per season instead of days per month.

Supplemental Activity Analysis

In order to confirm the validity of responses, a supplemental survey of 912 riders, who provided their e-mail addresses for the primary survey, was conducted in January 2017.
Q: How many miles did you ride your OHRV off-highway in 2016?

and

Q: How many days per month did you ride your OHRV off-highway in 2016? (all 12 months listed with drop-down of 1-31 days)

or

Q: In total, how many days did you ride your OHRV off-highway in 2016?

From the 418 responses received, 293 were utilized.

The supplemental survey indicated that OHMC riders operated, on average, 14 days per year. Red and green sticker respondents rode the most days each year, while Historic OHMC owners rode slightly less than the average.

![Graph: Avg Days/Yr (Supplemental R2 Survey)](image)

*Figure A2-2: Days per year of operation (Supplemental Survey)*