



Rubicon Trail 2016 Annual Report

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Report of maintenance activities, volunteer projects and summary of the 2016 Rubicon season.

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As I look back at this year, I am amazed at how much was accomplished and how wonderful the Rubicon Trail (Trail) looks. I spent a lot of time on the Trail this year and I felt very confident going into the winter season, I knew the Trail was ready. I appreciate all the time and effort of the volunteers, clubs and individuals that love this trail. It shows!

The Clean Up and Abatement Order (CAO) was lifted in October 2014, but that has not changed our approach. The County continues to provide maintenance, education, and management of the Rubicon Trail. The County still maintains the database and documents all modifications to/or additional improvements. The County has an easement from the Forest Service which has a monitoring component. So the County continues to maintain the Trail just as it did when under the CAO. I provide an annual report to recap all of the accomplishments and efforts made during the year.

Adopt a Trail Program

This is the third year of the Adopt a Trail (AAT) program. With the AAT groups and the County working together we have created a program that is working. Once again the volunteers for the Rubicon Trail are an amazing group of people. Whether it's AAT or Friends of the Rubicon (FOTR) project, volunteers are there with good ideas, solutions and man power to accomplish anything.

Fifteen different AAT segments were established in 2014 and all are currently adopted. There were some segments adopted by new clubs this year. SLO Crawlers adopted segment 8-Little Sluice, Rusty Folena adopted segment 6-Walker Hill and El Dorado Rock Crawlers (EDRC) adopted segment 12-Buck Island. I want to thank all of the clubs and individuals for their participation in this program.

Requirements of Adopt a Trail program include completing two assessments each year, one in the spring and one in the fall. The County realized the forms were confusing for the groups so the information provided to the groups was improved. I will be making changes to the program in 2017.

I would consider 2016 a normal weather year. We had a good snow pack that melted slowly resulting in no winter closures. The nighttime temps would recover and the melt was gradual.

The sediment removed in 2016 was 10.91 cubic yards which was the result of 396 buckets worth of sediment removed by volunteers and the California Conservation Corps. You can see in the chart below the comparison table.

Year	Number of Buckets	Cubic Yards of Sediment Removed	Water Year Description
2014		5.51	Drought year
2015	620	15.52	Drought year, warm temps, lack of snow pack
2016	436.5	10.91	Average snow pack, large rainfall amounts in fall

Below is a recap of all fifteen AAT segments as reported by the Adopt a Trail volunteers.

1. Francis Cow Camp segment (adopted by Top Gun). This segment of the Trail is from Airport Flats turn off to Wentworth Springs camp ground. All of the improvements to the Trail still look good with minimal sediment trapped in the Rock Energy Dissipators (RED). There were no maintenance issues on this segment.

The assessment for this segment was completed July 5, 2016 by Vickie Sanders.

2. Wentworth segment (adopted by Madhatter's 4X4). This segment of the Trail is from Wentworth Springs campground to the Intertie. The improvements on this segment of the Trail are functioning as designed. There was .88 cubic yards of sediment taken out of the RED's in this section. After 21.5 hours of volunteer work, all RED's where clean and no problems were seen or noted for this section.

The assessment and maintenance for this segment was completed on June 19th and September 28th.



3. Loon Lake Intertie #1 segment (adopted by Robert Lightfoot and the Tim Green family). This segment is from the Loon Lake Kiosk to Whale Bones. There were many different improvements made to this segment of the Trail.

Some of the Rock Energy Dissipators needed to be repaired. A total of .60 cubic yards of sediment was removed from the existing RED's by Robert Lightfoot, Tim Green and other users.

From notes on the AAT paperwork, this segment will need to be addressed in the spring of 2017. There have been BMP's identified that need to be improved or cleaned out as they have slowly broken down and/or were full of mud.

The assessment for this segment was completed on June 7, 2016. There were many other dates that the volunteers provided maintenance to the BMP's in this area during the season.

Robert Lightfoot has adopted this segment solely as of July 2016.



4. Loon Lake Intertie #2 segment (adopted by Auburn Jeep Club). This segment is from the Whale Bones to the Intertie with the Rubicon Trail. This segment also has granite slabs that were treated with Bio Response for spills. 1.01 cubic yards of sediment was removed from this segment.

The assessment for this segment was completed on September 6th.



5. Ellis Creek segment (adopted by Point West Insurance/Carbon Crawlers). This segment is from the Intertie to below Walker Rock. Maintenance work for this segment was performed by the California Conservation Corps (CCC) this year. This segment of the Rubicon Trail has the most Rock Energy Dissipaters of any other segment with 12 RED's and 115 BMP's. Sediment captured and removed from this section was 6.50 cubic yards. Whereas this area does not create a large volume of sediment the RED's still require maintenance. Several areas where noted need additional rock.

The CCC's performed maintenance to this segment August 17-24, 2016.



6. Walker Hill segment (adopted by Dysfunctional Rock Crawlers (TDO), but in July they gave this segment up and it was adopted by Rusty Folena). This segment is from below Walker Rock to the Benchmark above Walker Hill..

The RED's were cleaned out; sediment amounts for this segment was 2.25 cubic yards. One RED in this segment will require more maintenance than others on the Trail.

A new water bar was added at the bottom of Walker Hill to reduce excessive water between the campsites.

The assessments and maintenance for this section were done on July 18th by TDO and October 2nd by Rusty Folena. There were various weekends through the year where maintenance was provided for the RED at the Top of Walker.



7. Soup Bowl segment (adopted by MTA). This segment is from the crest above Walker Hill to Winter Camp. It has been reported that the existing improvements to the Trail are still working as designed.

Spills were treated with Bio Response and maintenance completed to the BMP's. No changes to BMP's were needed for this section after trail assessment.

The assessment and maintenance for this section was completed on June 4th.

8. Little Sluice segment (adopted by SLO County Crawlers). This segment is from Winter Camp to the property line at Spider Lake. SLO County Crawlers performed the fall assessment. Many rocks were moved to fill holes and low spots in this portion of the Trail. SLO also repositioned some downed trees as barriers along the edges of the Trail. The BMP's in this section of the Trail are functioning as designed.

The section of the Trail at Winter Camp needs additional rock. The County completed rock fill on chain link fencing as an experiment to see if it would hold. This has been very successful and needs to be completed for the rest of the area of Winter Camp.

The assessment and maintenance was complete on July 22nd.



9. Arnold's Rock segment (adopted by Russ and Janice Watkins). This segment is from the property line at Spider Lake to Egg Rock (Indian Bypass). There were some sections of the granite slabs that were treated with Bio Response for spills.

All BMP's were identified and described as working properly and in no need of repair or service.

No issues or concerns were identified in this section after the assessment on June 4th.

10. The Old True Big Sluice segment (adopted by Placer County Crawlers). This segment is from the Old Sluice turn off to Egg Rock was. There are no RED's in this section. Two of the BMP's in this section were improved by adding a combined total of 79-5 gallon buckets of rock. Other than the added rock, this section of the Trail looks great.

The assessment and maintenance was completed July 9th.



11. Mechanic's Pit segment (adopted by Mike Gerondakis). This segment is from Egg Rock to the Buck Island Dam. The BMP's to this section were functioning as designed. It was noted that several of the rock fill locations on the Trail have been successfully capturing sediment.

Some granite sections were treated with Bio Response.

The assessment and maintenance for this section was completed in the spring.

12. Buck Island segment (adopted by Daystar Products/El Dorado Jeep Herders). This segment is from Buck Island Dam to the Dive Off. The BMP's are functioning as designed. El Dorado Jeep Herders have decided to give up this segment up and it has been adopted by El Dorado Rock Crawlers for 2017.

The county completed an assessment of this area in May and September.

13. Big Sluice segment (adopted by Hangtown Crawlers). This segment is from the Dive Off to Sawtooth. All BMP's were functioning properly. After the fall assessment, the Hangtown Crawlers feel there needs to be additional BMP's installed in this section. They plan to contact the County in the spring of 2017 to help coordinate a work party to create the needed BMP's.

The assessments and maintenance were completed on June 11th and October 1st.

14. Rubicon Bridge segment (adopted by Metal Cloak). This segment is from Sawtooth to the Rubicon Bridge. This segment was assessed by County staff. Sawtooth needs gabion baskets to hold the hillside. This is a narrow portion of the Trail and is a safety concern. We can't afford to lose the hillside, as there is nowhere to go. The County staged rock at the bottom of Sawtooth to assist with the installation of gabions in the future.

The assessment was completed by Vickie Sanders and John Arenz on May 25, 2016.

15. Rubicon Springs segment (adopted by Jeepers Jamboree). This segment is from the Rubicon Bridge to the County Line and it was. The County assessed this segment in May with the helicopter project. 313,000 pounds of rock were placed in the mud hole in front of the care takers cabin. The rock was then spread by the property owners. A RED will be installed on this section in 2017. The Rubicon Bridge decking and approaches were rebuilt by volunteers and will be discussed in the volunteer report and County activities section of this report.

The assessment was completed by Vickie Sanders and John Arenz on May 25, 2016.

Volunteer - Friends of the Rubicon (FOTR)

The most important part of the Rubicon Trail is the volunteers. It is what makes the Rubicon Trail a special place to be. Volunteers logged 1,730 hours which equals \$43,250. These hours help with grant match and El Dorado County appreciates every one of the volunteers and their efforts. Many of these volunteers travel several hours to donate their time to the maintenance activities on the Rubicon Trail. I cannot express enough on behalf of the County how valuable every volunteer is to the County. The projects this year were very significant.

Shannon Chard is the FOTR Trail Boss. Shannon has done an amazing job this year completing several projects. Her leadership and enthusiasm is infectious and I want to thank her for an outstanding year. This has been a very exciting year for FOTR.

Winter Camp- May 23rd thru May 25th

FOTR volunteers traveled to Winter Camp ahead of the helicopter to prep the drop site. Sections of chain link fence were fastened together and stretched out over the drop site in order to protect the site. The area covered was approximately 80 feet by 14 feet. Then the helicopter dropped 230,000 pounds of rock at this location. The day started out sunny and beautiful but ended with snow. The volunteers took cover on the private property. Thank you to the Rubicon Trail Partners for all their assistance.

Volunteers assisted during this time frame on helicopter drops of concrete at the location of Soup Bowl, for a project proposed for August. Volunteers worked 83 hours.

Wentworth Springs Kiosk – July 16th, July 23rd, August 20th, October 1st, November 5th

The kiosk at Wentworth Springs Campground has been in disrepair for years. FOTR replaced the water damaged siding and sheet rock, replaced the door and frame, repainted, replaced trim and fascia boards, added concrete to the entrance to prevent water problems inside the building and installed the signs and map. The sign and map were removed on November 5th for the winter and stored in the kiosk building. Volunteers worked 306 hours on this project.

Loon Lake Kiosk, Toilets and Misc. Volunteer projects

Several volunteers work at the Loon Lake kiosk doing various activities such as cleaning toilets, trail maintenance projects, handing out spill kits and educating users on proper use of the Trail.

Rubicon Bridge

Planning for the Rubicon Bridge began almost a year in advance. The timbers were ordered in November and put in storage until we could schedule the helicopter. Once

we scheduled the helicopter the concrete was ordered and the El Dorado High School Football team loaded the concrete into the bags for flight. All materials for the bridge had to be coordinated for delivery to the Gerle Addit and rigged for flight. Materials for the bridge were flown in on May 25th.

Volunteers coordinated the work project and set the date for August 19th - 21st. This group was amazing. Supplies, tools, logistics and safety were well coordinated. The wing walls were poured on the bridge abutments on Friday. Saturday the bridge was closed as they stripped the old timbers off and the new timbers were installed. This project was complete with the bridge open by Sunday at 10:00 a.m. A few weeks later the forms were pulled from the wing walls by Marlin Crawlers.

It is truly amazing what these volunteers accomplished. These volunteers organized, planned, recruited volunteers, coordinated safety and communications, coordinated and gathered materials and completed the work within a short time frame. 1,036 hours were logged for the project. I cannot find the words to express how much I appreciate the time and effort that everyone put in on this project. Truly amazing!!!



Old Decking



Old Bridge Abutment



New Timbers



You can see the new wing walls that were installed on the bridge abutments.



Truly Amazing!!!

Soup Bowl

On October 15, FOTR volunteers completed a project at the step section on the easy line at Soup Bowl which is dug out every year. FOTR volunteers drilled and placed rebar in the rock face and poured concrete. A large log was moved in the area to

discourage and eliminate possible trail widening. 96 hours were logged by volunteers on this project.

County Activities

Once again the Parks Division participated in the Sportsman's Expo at Cal Expo in January 2016 with the State Parks OHV Division. This was great exposure for the County and we were honored to be included in the state building. We had a large display with the Rubicon Trail Foundation's Unimog, El Dorado County Sheriff's Jeep and the County Parks Razor. Additionally, Jeepers Jamboree and the County River program were also displayed.

The County also had a booth at the El Dorado County Fair again this year with the State Parks OHV Division and Jeepers Jamboree. This show of collaboration between State and County is appreciated and makes the events more enjoyable to the public and the staff working the events.

The County Sheriff's Department along with the Parks Division constructed a Sheriff's storage building on the Rubicon Trail located on private property. This building can be used to store supplies, radio and emergency equipment and provides a safe location for staff. We appreciate the cooperation of the private property owners in providing the County the location and continued support.

On Sunday May 22nd the County started the helicopter project with a safety briefing at the Gerle Addit. The Transportation crew had set up camp and all the equipment had been brought in the week before. The helicopter arrived on Sunday with the crew from Siller Brothers. This project involved ordering of materials and coordinating transport of those materials to the addit and rigging them for flight. Rigging of the materials, such as concrete for the bridge project and for Soup Bowl, timbers and bridge hardware for the bridge project, were discussed with the helicopter company. We purchased large bags to transport the concrete, but the concrete had to be loaded into the bags. El Dorado High School football team loaded the bags and prepped them for flight. The Department of Transportation (DOT) then transported the bags to Gerle Addit for flight.

At the point, the timbers had to be rigged for flight. Rope sling had to be acquired to rig the timbers. The timbers were also transported to Gerle Addit by DOT. There were a lot of details to make this project happen. The Rubicon Trail Foundation was instrumental in making this project come off so well.

Monday morning, May 23rd at 7:00 a.m. the helicopter was in the air and I was on the Trail identifying the drop locations and rock amounts. The Rubicon Trail Foundation was onsite with me, transporting me from one drop location to another. Volunteers were working closely with me on the Trail. Friends of the Rubicon brought in cyclone

fencing and spread it out in Winter Camp ahead of the rock drop. Rock was dropped at various locations right on the trail eliminating the need for crews to move it. Winter Camp was a large project; rock was dropped on the fencing that had been spread by FOTR volunteers. This location is one of the seven winter monitoring sites and an area that results in winter closure. With the armoring of this site, we anticipate improved conditions. This is a new BMP that has never been used on the Trail before. If this section holds we will look to do this to the rest of the area in the future.

Weather was a large factor during this project. We experienced sun, rain, thunderstorms and snow during the project. On Tuesday, May 24th the helicopter was grounded due to weather.

The bridge timbers and concrete were dropped at the Rubicon Bridge on Wednesday May 25th and Thursday May 26th. As a weather system moved in on the afternoon of the 25th the helicopter was grounded. Concrete was also dropped at Soup Bowl on the 26th. A restroom was dropped at Buck Island for construction during the season. Then it was off to flying more rock to the remaining locations. This was a very successful project.

The table below gives the location of the drops and the amount of materials transported.

LOCATION	POUNDS OF ROCK/MATERIALS
Climb before the bowl	49,500
Pumpkin Patch	42,000
Waterbar after 1.6	10,000
FOTR Bridge - before bridge	30,500
Fotr Bridge - after bridge	10,500
Winter Camp	230,800
Little Sluice	46,000
Forest Hill Project	50,200
Sawtooth	31,000
Rubicon Springs	313,000
Supplies Dropped for bridge project	
Lumber	23,000
Bridge Gravel	32,000
Concrete	26,000
Supplies Dropped for Soup Bowl	
Concrete	7,000
Restroom to Buck Island	3,500



Rock drop between Ellis Creek and the FOTR Bridge.



Fencing spread by FOTR volunteers. Rock was dropped on top of the fencing.



This is Rubicon Springs; rock was spread by property owners in June.

The fall 2016 season was very wet, resulting in meaningful inspections. It makes a big difference to see the BMP's working and where the water is draining or not draining. Staff and I were on the Trail during and after storm events which gave us an opportunity to evaluate and provide maintenance to areas that needed additional attention. I have been very fortunate to hire Justin Williams, Highway Maintenance Worker and contract with Transportation for Matt Warden to also assist with improvement and inspections as we see things that need to be addressed before the winter season. These two employees provided many improvements on the Trail during the month of October. Many trips that I know were not in the best of conditions but they made the improvements needed for the Trail. I feel very lucky to have these two employees that are familiar with the Trail and put the effort in even when it's not comfortable conditions.

During the fall, two areas of concern addressed were Winter Camp and the Intertie. As discussed previously, rock was dropped at Winter Camp during the helicopter project. After installation of the rock at Winter Camp it was observed that water was ponding before the rock. Justin and Matt assessed the area and were able to move the rock on one side, out of the travel way, allowing for water to drain.

Another area that needed a BMP improved was the Intertie. It was identified that the water was coming down the Rubicon and draining down the Intertie. Once again, Justin and Matt built a water bar and directed the water to the rock energy dissipator.

Both of these improvements were completed in October.

In December 2016, the County met with the Forest Service to review the winter monitoring protocols. The protocols stated that the County would do a monthly inspection. Based on Exhibit C, there is no mention of monthly inspections. So the protocols were changed to read as follows:

Inspection Frequency

The County will complete remote (office) monitoring once a week to determine the need to initiate a site visit to the Trail, or more frequently as may be warranted by changing weather conditions.

The County will complete field site visits to the Rubicon Trail to assess Trail conditions relative to SSWQPP and document the Trail conditions based on the analysis of remote (office) assessment. During the spring snow melt time frame (typically April-June), the County may complete a bi-weekly site assessment, as conditions warrant.

If the office assessment information warrants the need to visit the site, the County will complete a field site visit typically after the forecasted event. Inspections will only be initiated for the events that the County determines to be either major precipitation events (forecasted by the National Oceanic and Atmospheric Administration (NOAA) to have 2 inches or greater precipitation in the form of rain within a 12 hour period) or major warming trends (temperature gradients with nighttime lows above freezing (32 degrees Fahrenheit (° F)) and daytime highs above 55 ° F at the Trail location. The purpose of these site visits will be to assess the Trail conditions relative to the SSWQPP and to document the parameters identified within Exhibit C.

Hazardous Material Removal

El Dorado County's Environmental Management Division collected 25 lbs of hazardous material from the Loon Lake Hazardous Materials shed. The Wentworth Springs and Tahoma sheds will be cleaned in the spring.

Education

Our educational program remained the same as past years. The four S's, Sanitation, Spills, Sedimentation and Safety. These continue to be the issues that we focus on.

Law Enforcement

The El Dorado County Sheriff's Office OHV Unit contacted 2,654 vehicles and 7,158 Rubicon Trail users in 2016. Regular patrols continued during high usage times of the season which primarily runs from May through September. During the summer, the Deputies assigned to this detail are present when groups of 50 to 500 participate in organized runs, which occur just about every weekend.

Ninety warnings were given to Trail users for problems such as trespassing, alcohol related violations and illegal campfires. Seven citations were issued for violations including registration, illegal campfires and resource damage. Every year, the Deputies who work this assignment have to deal with major incidents that range from vehicle rollovers to lost or injured persons. Ten incident reports were taken including one fatality, multiple search and rescues, and several other assists were conducted by the OHV Unit.

OHV Unit Recap

Season	Major Events	Stats			
		Vehicles	Persons	Warnings	Cite/Arrest
2013: Tim Peterson solo Deputy		3,846	7,803	187	0
2014: Tim Peterson/Steve Wunschel	Helicopter Crash, Small fires, King Fire, Rollover on Big Sluice, SAR	4,199	8,879	140	1/1
2015: Tony Broadfoot/Jeremiah Hamon	7 SAR's, 7 Veh. Rollovers, 5 M.A., Dis. Veh's, Illegal shooting, fires, attended multiple event	7,146	15,846	46	1/1
2016: OHV OT by committee	Citations for Registration/Resource/Parking 3 medial aides/1 death Problems: Trespass/Alcohol/Illegal Camping/Abandon Veh's	2,654	7,158	90	7/1

Grant

In 2015, the County received an Operation and Maintenance grant from the State OHV Division. This grant included funding to hire a helicopter to fly rock to locations where additional rock was needed such as the Winter Camp area. This grant also provided funding for the kiosk and to repair the green bridge over the Rubicon River. Included was a vehicle purchase to assist the Parks Division on the maintenance and monitoring requirements of the easement. This grant was in the amount of \$713,269, (grant \$520,414 with a match of \$192,855). This grant expired on August 31, 2016.

The helicopter project was completed at the end of May 2016. The kiosk repairs and the green bridge over the Rubicon River were completed in August. Both of these projects are explained in more detail under volunteer projects and County activities.

This grant also provided funding for a vehicle for the Parks Division. We were very fortunate to work with Trevor from WFO to obtain a Jeep built for the Rubicon. We have been very pleased and the vehicle we have been able to get onsite more and provide more Trail improvements than in years past.



The County also completed an analysis of alternative routes around Wentworth Springs and Winter Camp areas. A consultant was hired in August to assist with the analysis and the subsequent alternative routes were identified and mapped. The Forest Service reviewed the data in January 2016 and determined that they would not support the project. The data has been compiled and the report completed and the report is on file if sometime in the future the County and Forest Service could revisit the project. This grant has also been completed.

In 2016 we received two grants for the Rubicon Trail.

- Operations and Maintenance in the amount of \$174,939 with a match of \$74,965 for a total of \$249,904. This grant provides funding for a Polaris Razor which will assist with winter inspections. It also provides for restroom pumping and cleaning along with staff to provide maintenance activities on the Trail.

Education and Safety in the amount of \$74,175 with a match of \$30,750 for a total of \$104,925. This grant provides funding for an educational calendar, stickers in the four colors and a new bandana. Mid Trail staff and Law Enforcement have noticed that many are visiting the Rubicon and are not prepared for what can happen. The educational campaign will be; *Are You Ready for the Rubicon Trail?* The goal is the have users prepared before they arrive on the Trail and get themselves and others in a situation that can be dangerous.



The grant program for State OHV kicks off in January 2017. Staff is currently determining the work plan for the 2017 season and will be applying for grants to complete the work. At this time, it is anticipated that the County will apply for an Educational Grant, Operations and Maintenance. The County will discuss ideas and projects with the Rubicon Oversight Committee in January.

Board of Supervisor Actions in 2016

In 2016 the Board of Supervisors approved the OHV grants.