

LAKE CACHUMA OAK TREE RESTORATION PROGRAM

2020 ANNUAL REPORT

with

Fiscal Year 2020-2021 Financials and Water Usage



Conducting the annual oak tree inventory

Prepared for: Cachuma Operation and Maintenance Board

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September 28, 2021

Executive Summary

The following is the annual report for the Lake Cachuma Oak Tree Restoration Program that contains the results of the 2020 annual inventory of all planted mitigation oak trees and the Fiscal Year 2020-2021 financial and water usage details. The results of the 2015 Lakeshore Survey set the mitigation number for the Lake Cachuma Oak Tree Restoration Program at 4,721 by 2025 (COMB, 2016). This number included the established mitigation ratio of two to one (2:1) and an 18% mortality rate that was determined from the 2015 and 2016 annual survey reports (COMB, 2017a; COMB, 2017b). As of the end of this year's inventory, 5,350 oak trees have been planted (and 57 adopted trees for a total of 5,407 trees) and 4,341 are alive which is a survival rate of 80.28% (Figures 1, 3 and 4). The number of mitigation trees still to be planted is **380** trees (mitigation number minus total alive trees). The cost of the program during Fiscal Year 2020/2021 was \$119,113 with a total cost of the program since it started in 2005 of \$1,887,490. Water usage for irrigation over the year was 1.54 acre-feet.

Recommendations for next year to meet the program mitigation objective in 2025 would be to plant approximately 300 more oak trees and replant approximately 80 oak trees that had perished in planted areas with a high success rate.

Introduction/Background

This Annual Report presents the results of the 2020 oak tree inventory and Fiscal Year 2020/2021 (FY20/21) maintenance with water use and financials for the Lake Cachuma Oak Tree Restoration Program (Program). For Program details and objectives, see the 2-Year Plan for Fiscal Years 2013/14 and 2014/15 (COMB, 2014). This annual report contains oak tree survival rates, maintenance with water usage, financials, and suggested program improvements. Annual Reports have been written for each year of the Program. References for the recent reports are as follows: 2015 (COMB, 2017a), 2016 (COMB, 2017b), 2017 (COMB, 2018), 2018 (COMB, 2019), and 2019 (COMB, 2020).

There were 325 oak trees planted during FY20/21 at Lake Cachuma County Park that are referenced as Year (YR) 12 trees, the twelfth year of planting trees since the Program started in 2005 (Figure 2). The survey results for this reporting period are presented by the year of the program that they were planted, and include the financials and maintenance effort.

Results

The 2020 inventory (or survey) of the oak trees planted through the Lake Cachuma Oak Tree Restoration Program was completed on 4/8/21 with the data entry and quality-assurance/quality-control occurring during the second half of the month. The objective of the annual survey is to determine the status and success rate of the trees planted since the beginning of the program with twelve years of plantings; Year 1 (2005-2006), Year 2 (2006-2007), Year 3 (2007-2008), Year 4 (2008-2009), Year 5 (2009-2010), Year 6 (2010-2011), Year 7 (2014-2015), Year 8 (2015-2016), Year 9 (2016-2017), the Dam Tender (DT) trees (approximately 2005 through 2018), Year 10 (2018-2019), Year 11 (2019-2020), and Year 12 (2020-2021). Annual surveys traditionally are conducted in the late fall and early winter to best document the survival after the dry season and growth since the last survey. With the increased number of planted trees in recent years, the annual inventory takes longer with the objective now of completion by early spring of the following year. Methods for reducing the survey time continue to be investigated.

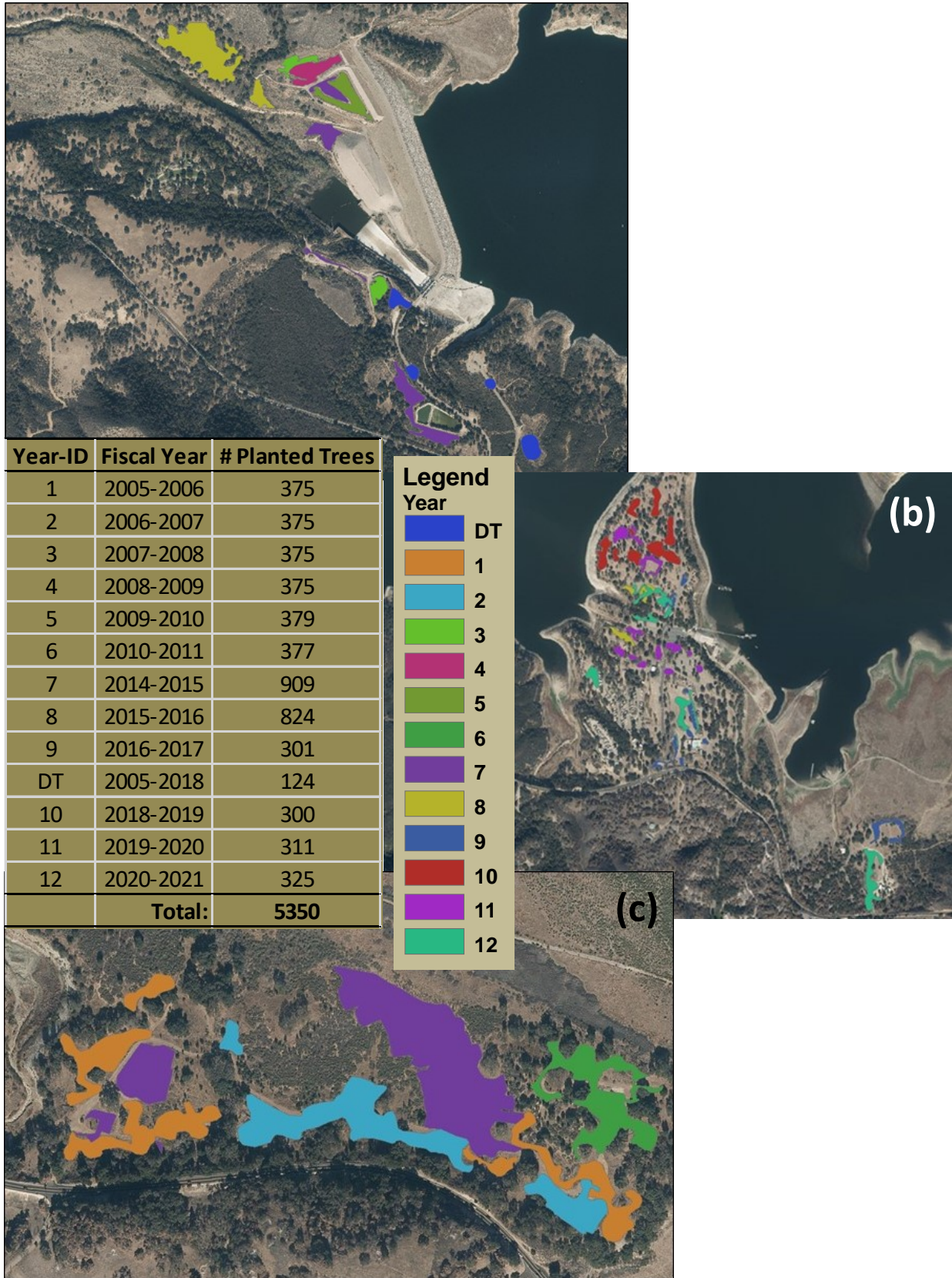


Figure 1: Oak tree planting locations by year planted (Year-ID) at; (a) Bradbury Dam area, (b) Cachuma Lake Recreation Area (County Park), and (c) Storke Flats.

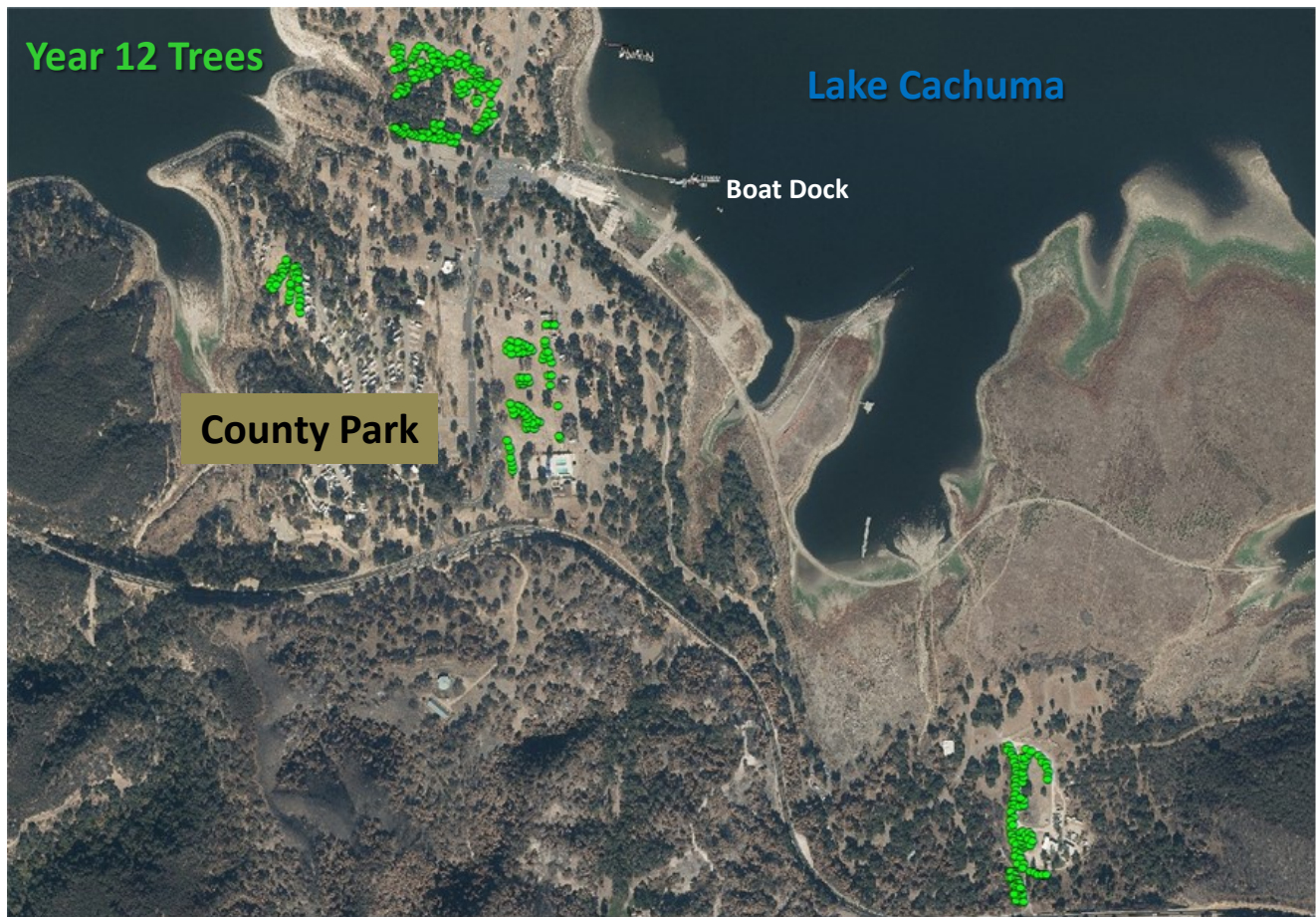


Figure 2: Year 12 trees within Lake Cachuma County Park as mapped in FY20/21.

The following figures and tables are the results of the survey in 2020 with 2019 results included for comparison; overall success rates in 2019 and 2020 (Figures 3 and 4) and success by planting year in 2019 and 2020 (Figures 5-16). The overall success rate went from 80.55% in 2019 to 80.28% in 2020; which includes Year 12 trees and replacement of some dead trees in Year 10 and Year 11. Year 12 trees have a 100% success rate and had no comparison to the previous year (Figure 17).

Prior to WY2017, six consecutive years of below average rainfall were observed that made it difficult for planted trees to survive particularly in the Year 1 through Year 6 trees that were thought to be self-sustaining by now at a minimum of ten years since planted. The number of required mitigated trees from the Lake Cachuma Surcharge Project was set in 2015 and reported in the 2015 Lakeshore Survey Report (COMB, 2016). The required mitigation ratio is two to one (2:1) survival rate (self-sustaining) in 2025. The results of the 2015 Lakeshore Survey found there were 879 dead and 1,122 at-risk oak trees. With a 2:1 mitigation ratio and an estimated 18% mortality rate, it was estimated that 4,721 trees would need to be planted to meet our mitigation requirements in 2025. To date, there are 4,341 planted alive trees suggesting that **380** trees (mitigation number minus total alive trees) still need to be planted and soon to get established and be self-sustaining within five years (2025).

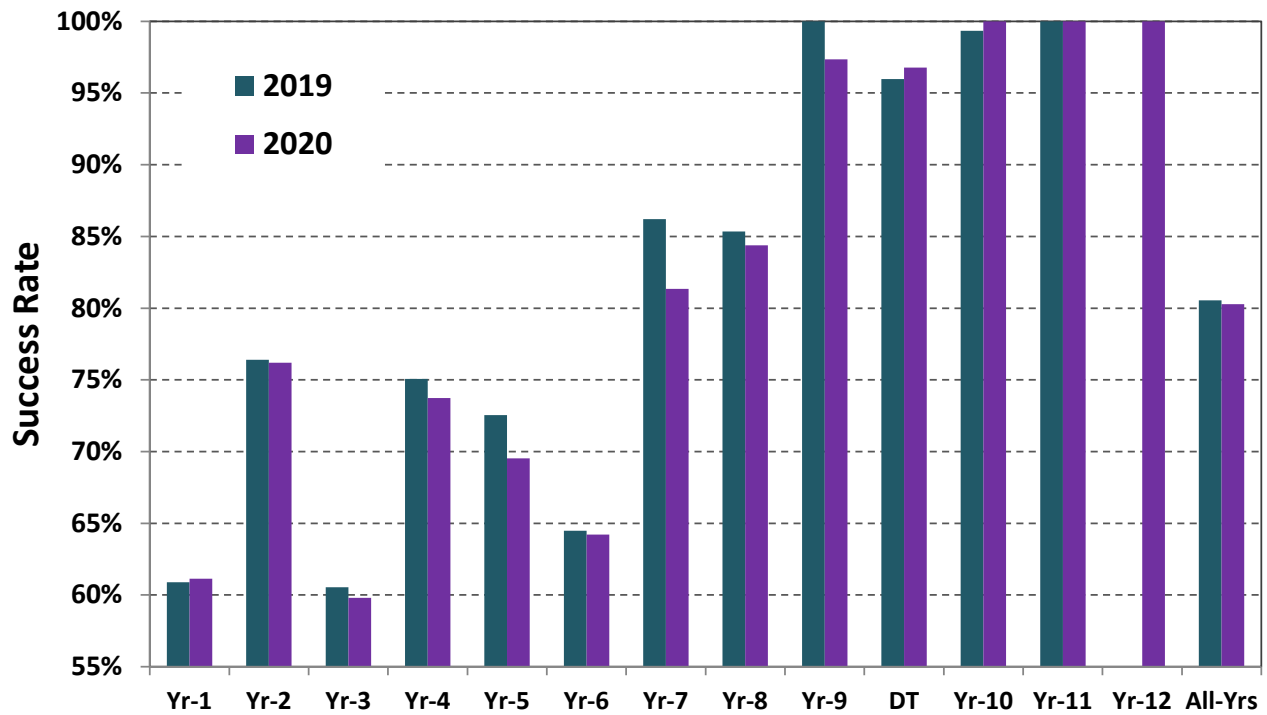
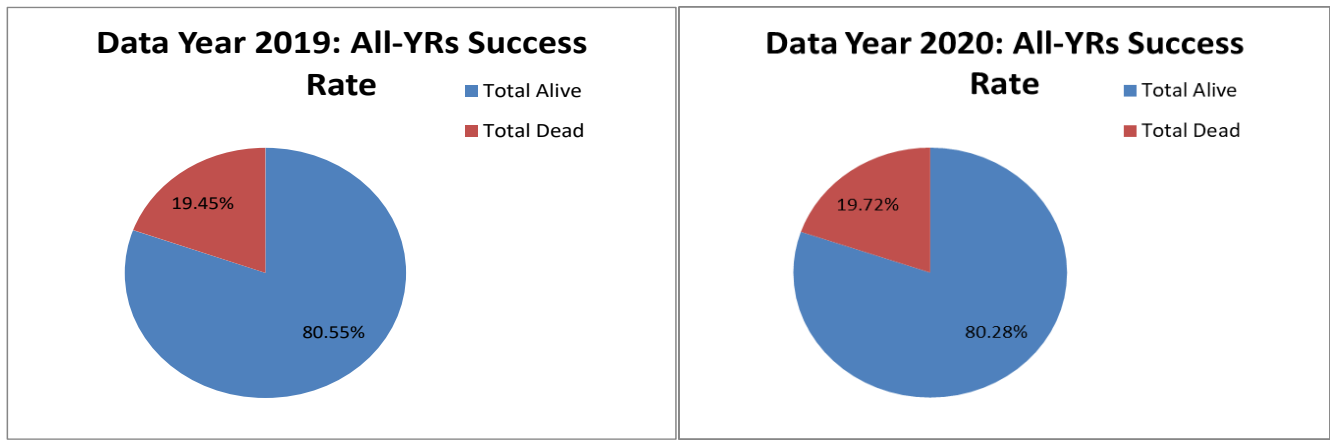
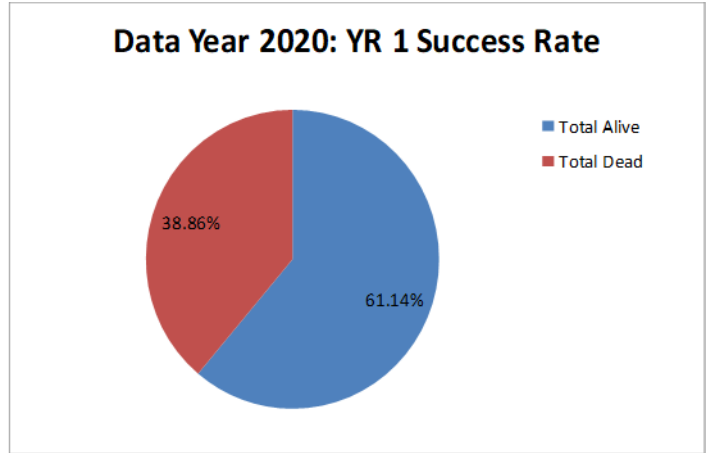
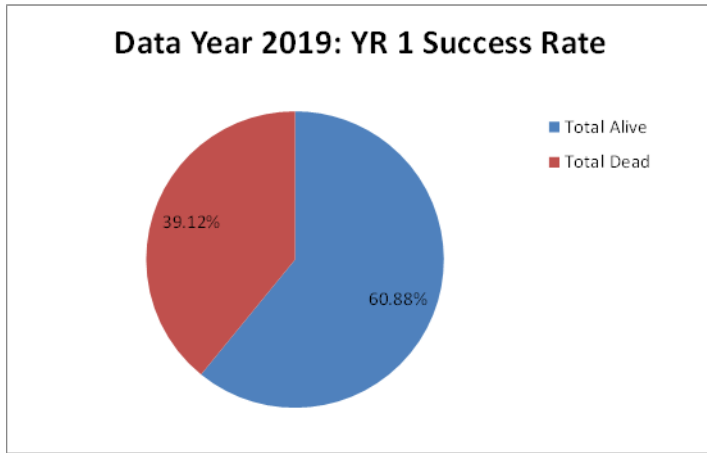


Figure 3: Success rate comparison from 2019 to 2020 for each and all tree years (Yr).



All Years - Total Observed in 2019				Percent of Total		All Years - Total Observed in 2020				Percent of Total	
Total Coast Live Oak (alive)	3656	Total Alive	4092	80.55%		Total Coast Live Oak (alive)	3876	Total Alive	4341	80.28%	
Total Valley Oak (alive)	436	Total Dead	988	19.45%		Total Valley Oak (alive)	465	Total Dead	1066	19.72%	
Ratio Coast/Valley	8.4	Total	5080	100.00%		Ratio Coast/Valley	8.3	Total	5407	100.00%	

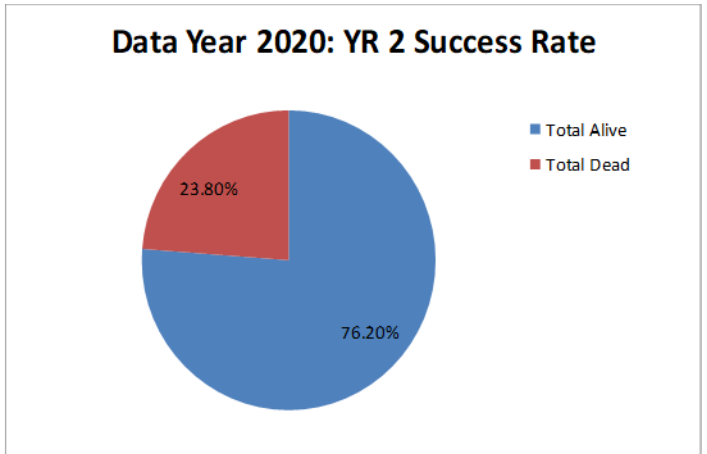
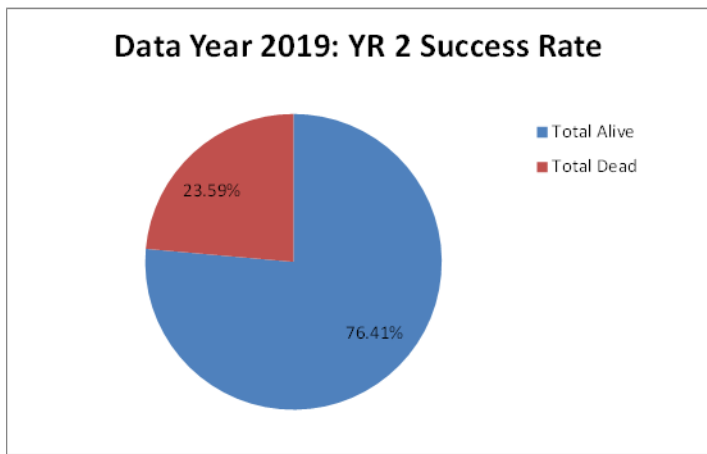
Figure 4: 2019 and 2020 status of oak trees from all years (Years 1 through 12) planted; including DT trees.



Year 1 - Total Observed in 2019			Percent of Total	
Total Coast Live Oak (alive)	219	Total Alive	235	60.88%
Total Valley Oak (alive)	16	Total Dead	151	39.12%
Ratio Coast/Valley	13.7	Total	386	100.00%

Year 1 - Total Observed in 2020			Percent of Total	
Total Coast Live Oak (alive)	222	Total Alive	236	61.14%
Total Valley Oak (alive)	14	Total Dead	150	38.86%
Ratio Coast/Valley	15.9	Total	386	100.00%

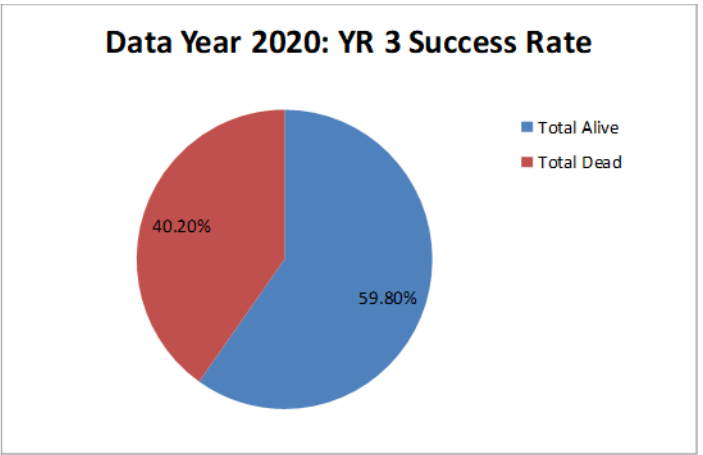
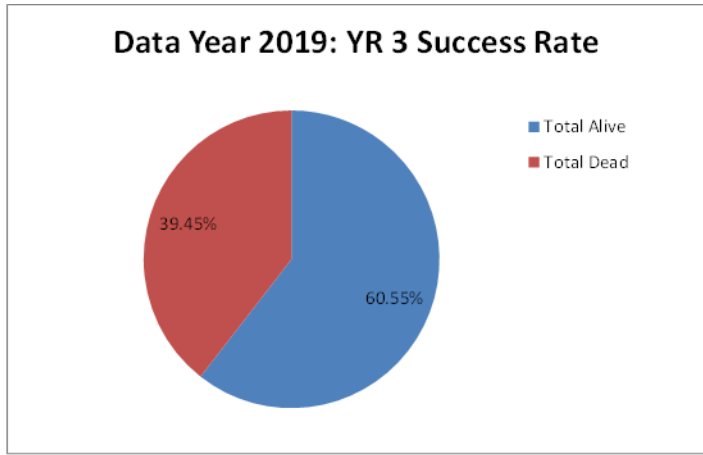
Figure 5: Status comparison of Year 1 trees from 2019 to 2020.



Year 2 - Total Observed in 2019			Percent of Total	
Total Coast Live Oak (alive)	263	Total Alive	285	76.41%
Total Valley Oak (alive)	22	Total Dead	88	23.59%
Ratio Coast/Valley	12.0	Total	373	100.00%

Year 2 - Total Observed in 2020			Percent of Total	
Total Coast Live Oak (alive)	261	Total Alive	285	76.20%
Total Valley Oak (alive)	24	Total Dead	89	23.80%
Ratio Coast/Valley	10.9	Total	374	100.00%

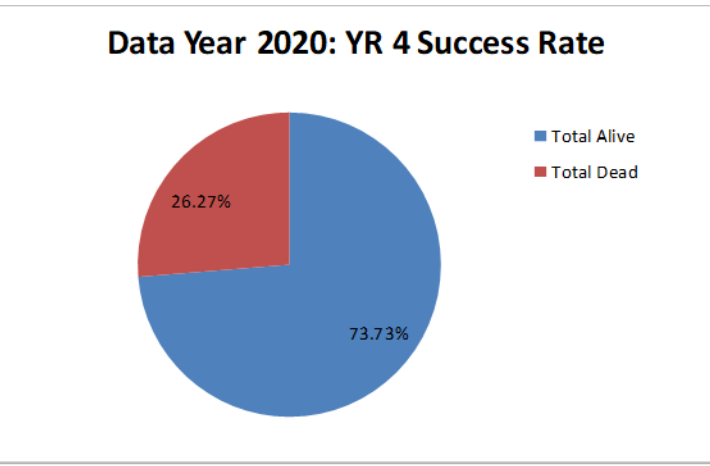
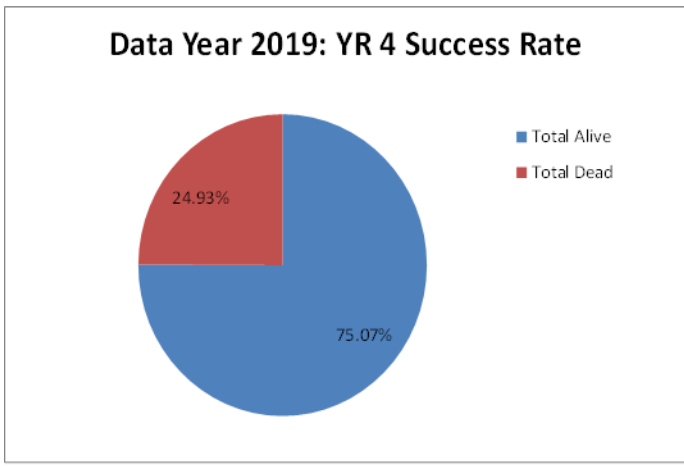
Figure 6: Status comparison of Year 2 trees from 2019 to 2020.



Year 3 - Total Observed in 2019			Percent of Total	
Total Coast Live Oak (alive)	224	Total Alive	244	60.55%
Total Valley Oak (alive)	20	Total Dead	159	39.45%
Ratio Coast/Valley	11.2	Total	403	100.00%

Year 3 - Total Observed in 2020			Percent of Total	
Total Coast Live Oak (alive)	220	Total Alive	241	59.80%
Total Valley Oak (alive)	21	Total Dead	162	40.20%
Ratio Coast/Valley	10.5	Total	403	100.00%

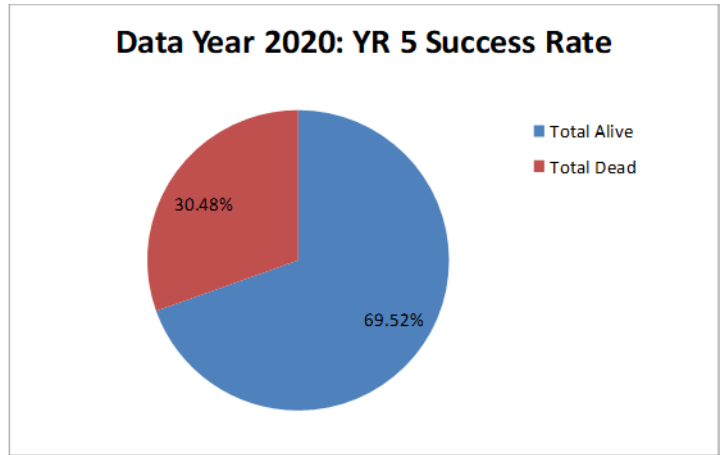
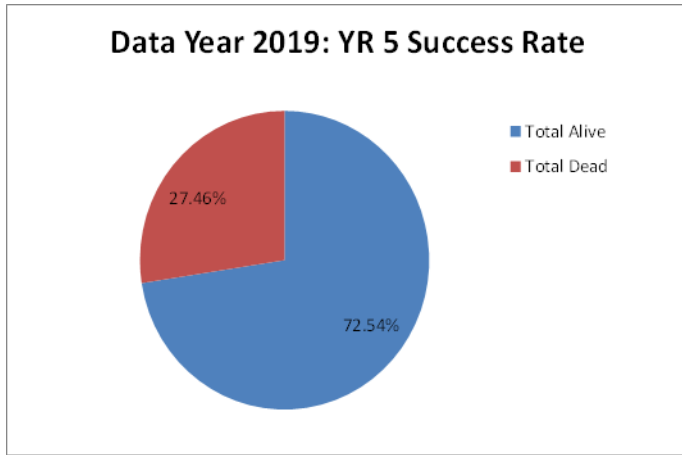
Figure 7: Status comparison of Year 3 trees from 2019 to 2020.



Year 4 - Total Observed in 2019			Percent of Total	
Total Coast Live Oak (alive)	253	Total Alive	280	75.07%
Total Valley Oak (alive)	27	Total Dead	93	24.93%
Ratio Coast/Valley	9.4	Total	373	100.00%

Year 4 - Total Observed in 2020			Percent of Total	
Total Coast Live Oak (alive)	249	Total Alive	275	73.73%
Total Valley Oak (alive)	26	Total Dead	98	26.27%
Ratio Coast/Valley	9.6	Total	373	100.00%

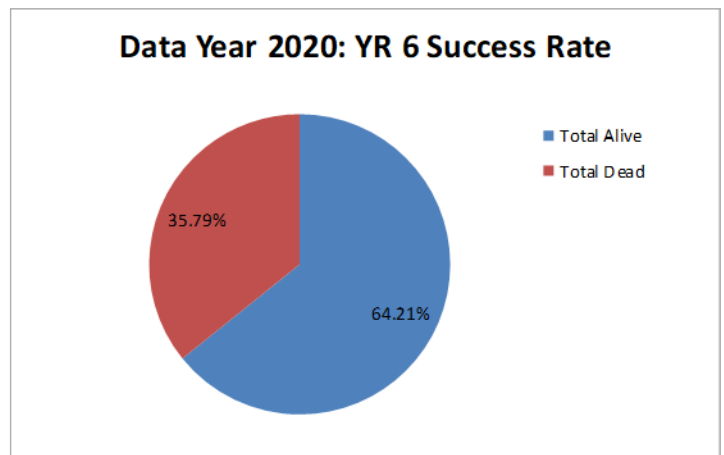
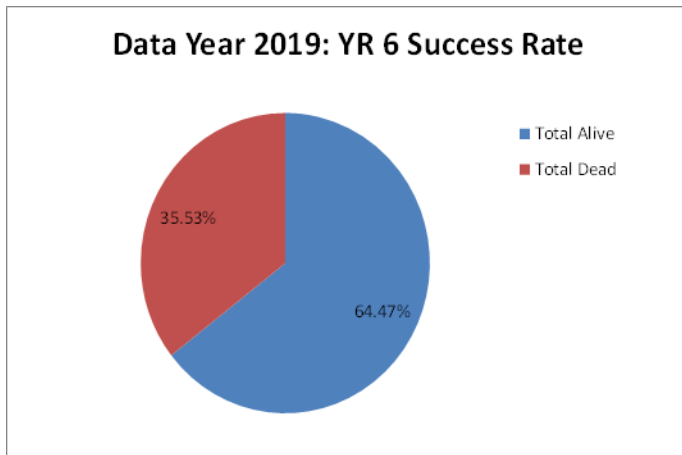
Figure 8: Status comparison of Year 4 trees from 2019 to 2020.



Year 5 - Total Observed in 2019				Percent of Total
Total Coast Live Oak (alive)	246	Total Alive	288	72.54%
Total Valley Oak (alive)	42	Total Dead	109	27.46%
Ratio Coast/Valley	5.9	Total	397	100.00%

Year 5 - Total Observed in 2020				Percent of Total
Total Coast Live Oak (alive)	237	Total Alive	276	69.52%
Total Valley Oak (alive)	39	Total Dead	121	30.48%
Ratio Coast/Valley	6.1	Total	397	100.00%

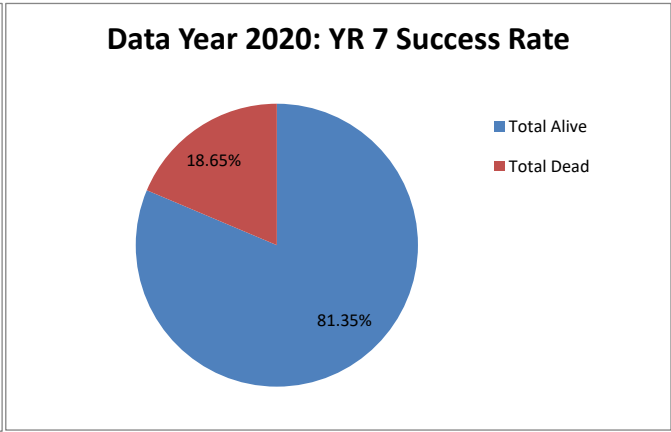
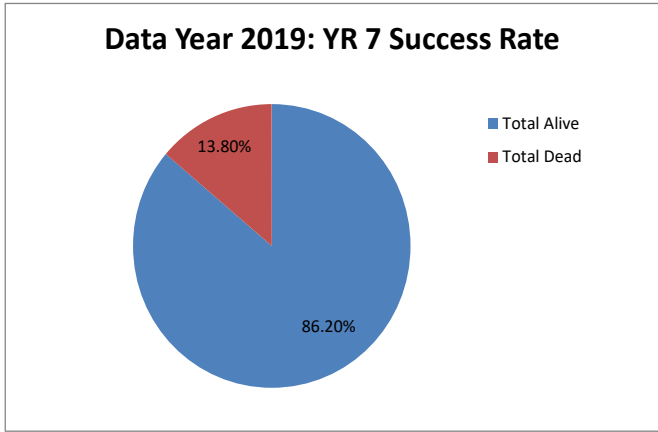
Figure 9: Status comparison of Year 5 trees from 2019 to 2020.



Year 6 - Total Observed in 2019				Percent of Total
Total Coast Live Oak (alive)	219	Total Alive	245	64.47%
Total Valley Oak (alive)	26	Total Dead	135	35.53%
Ratio Coast/Valley	8.4	Total	380	100.00%

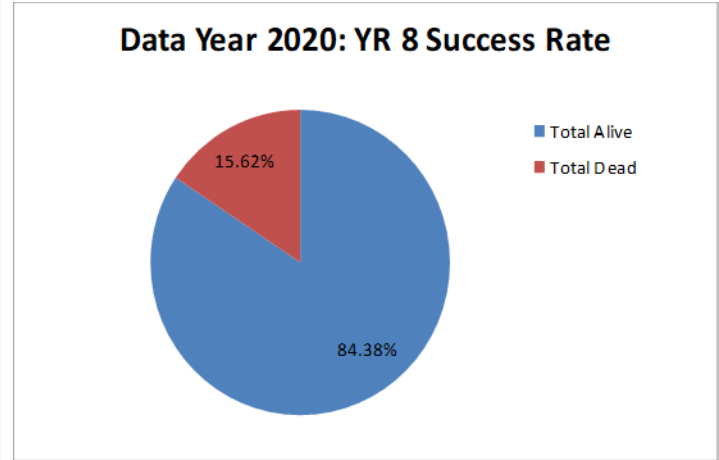
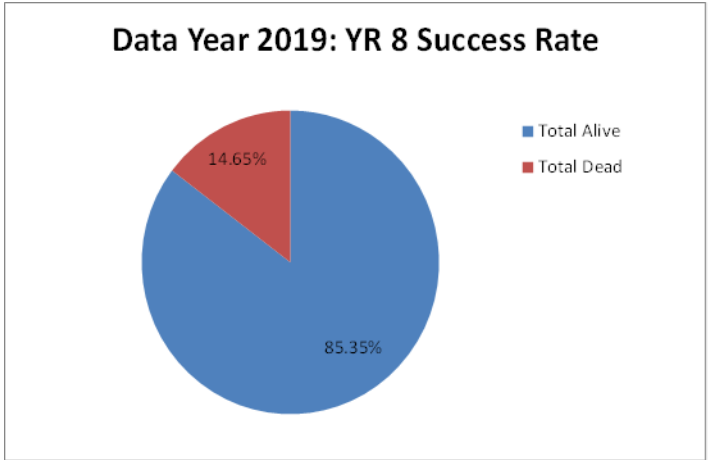
Year 6 - Total Observed in 2020				Percent of Total
Total Coast Live Oak (alive)	215	Total Alive	244	64.21%
Total Valley Oak (alive)	29	Total Dead	136	35.79%
Ratio Coast/Valley	7.4	Total	380	100.00%

Figure 10: Status comparison of Year 6 trees from 2019 to 2020.



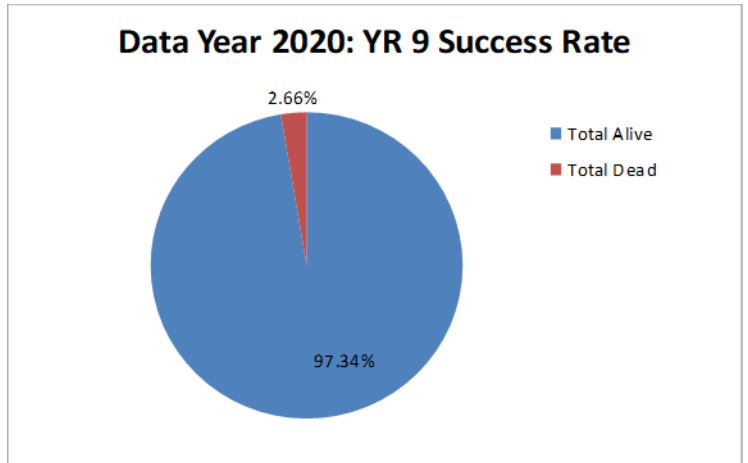
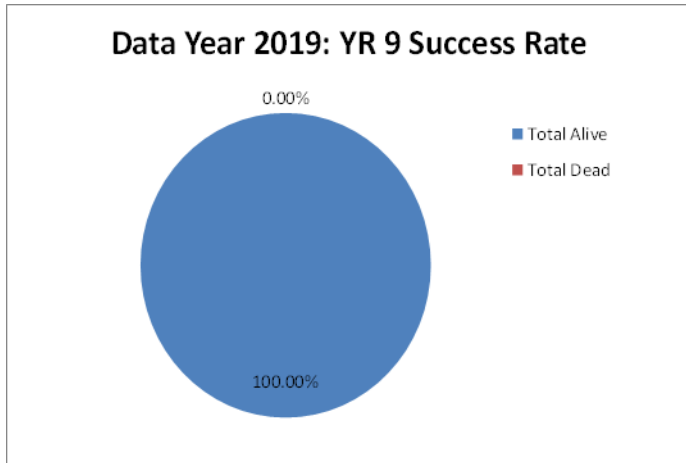
Year 7 - Total Observed in 2019				Year 7 - Total Observed in 2020					
			Percent of Total				Percent of Total		
Total Coast Live Oak (alive)	648	Total Alive	781	86.20%	Total Coast Live Oak (alive)	604	Total Alive	737	81.35%
Total Valley Oak (alive)	133	Total Dead	125	13.80%	Total Valley Oak (alive)	133	Total Dead	169	18.65%
Ratio Coast/Valley	4.9	Total	906	100.00%	Ratio Coast/Valley	4.5	Total	906	100.00%

Figure 11: Status comparison of Year 7 trees from 2019 to 2020.



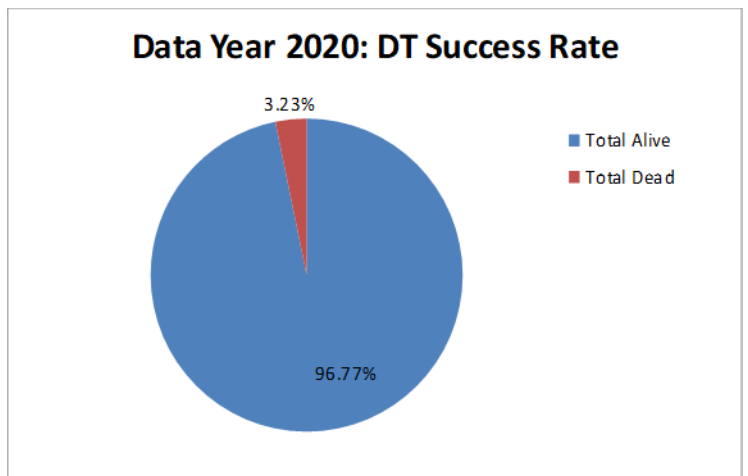
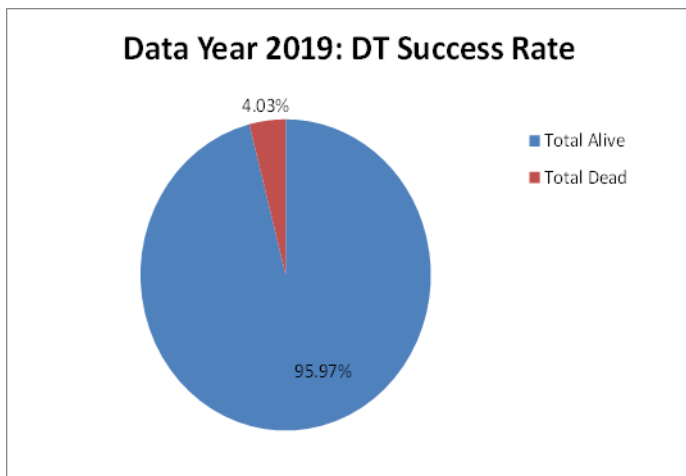
Year 8 - Total Observed in 2019				Year 8 - Total Observed in 2020					
			Percent of Total				Percent of Total		
Total Coast Live Oak (alive)	654	Total Alive	705	85.35%	Total Coast Live Oak (alive)	653	Total Alive	697	84.38%
Total Valley Oak (alive)	51	Total Dead	121	14.65%	Total Valley Oak (alive)	44	Total Dead	129	15.62%
Ratio Coast/Valley	12.8	Total	826	100.00%	Ratio Coast/Valley	14.8	Total	826	100.00%

Figure 12: Status comparison of Year 8 trees from 2019 to 2020.



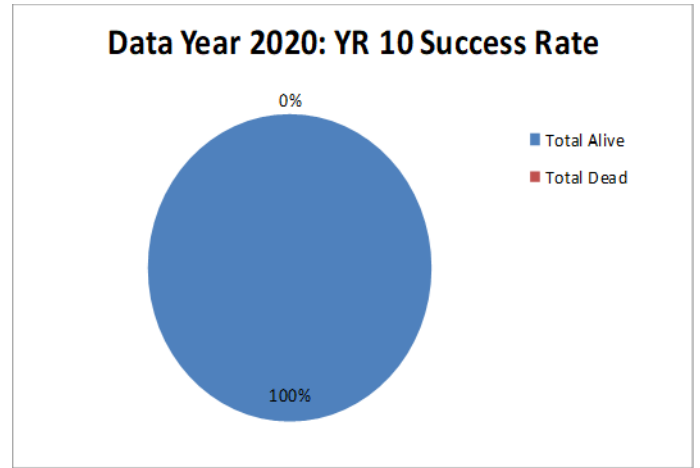
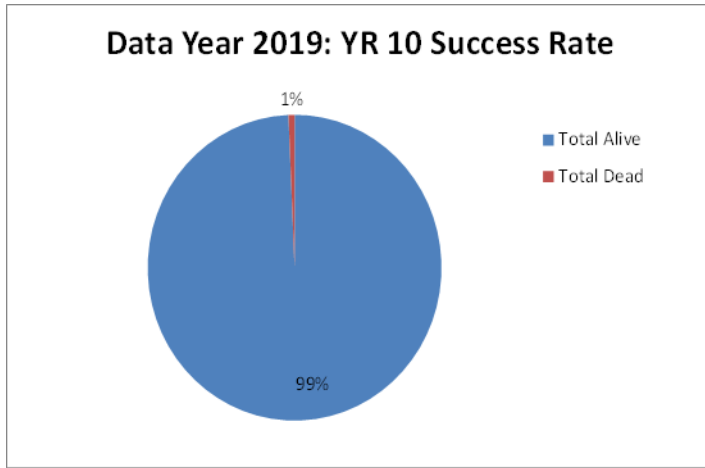
Year 9 - Total Observed in 2019				Year 9 - Total Observed in 2020			
		Percent of Total				Percent of Total	
Total Coast Live Oak (alive)	282	Total Alive	301	Total Coast Live Oak (alive)	273	Total Alive	293
Total Valley Oak (alive)	19	Total Dead	0	Total Valley Oak (alive)	20	Total Dead	8
Ratio Coast/Valley	14.8	Total	301	Ratio Coast/Valley	13.7	Total	301
			100.00%				100.00%
			0.00%				97.34%
			100.00%				2.66%

Figure 13: Status comparison of Year 9 trees from 2019 to 2020.



DT - Total Observed in 2019				DT - Total Observed in 2020			
		Percent of Total				Percent of Total	
Total Coast Live Oak (alive)	94	Total Alive	119	Total Coast Live Oak (alive)	94	Total Alive	120
Total Valley Oak (alive)	25	Total Dead	5	Total Valley Oak (alive)	26	Total Dead	4
Ratio Coast/Valley	3.8	Total	124	Ratio Coast/Valley	3.6	Total	124
			100.00%				100.00%
			95.97%				96.77%
			4.03%				3.23%

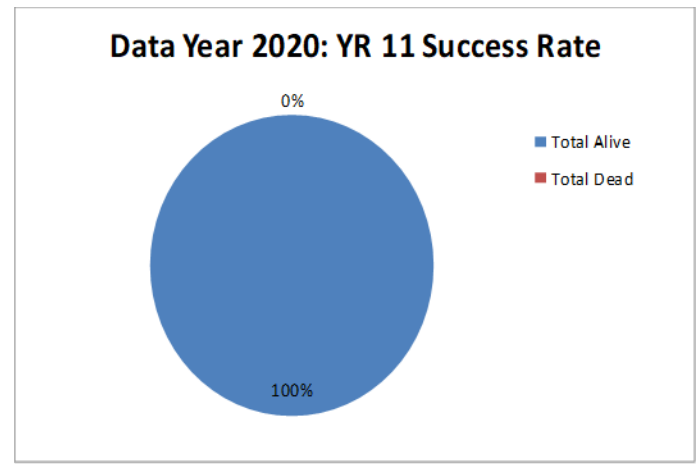
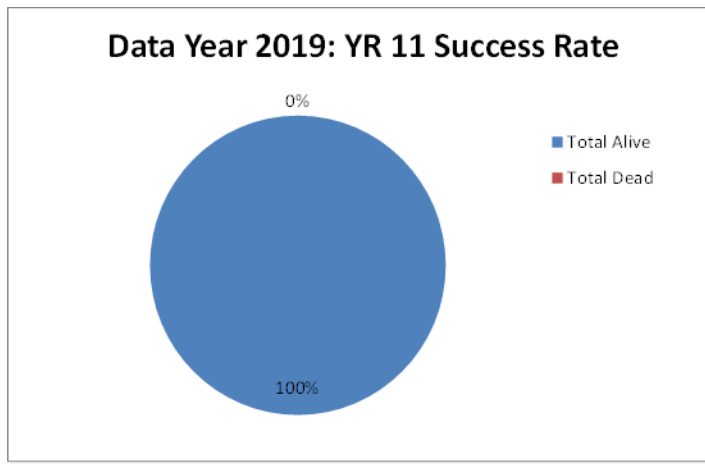
Figure 14: Status comparison of DT trees from 2019 to 2020.



Year 10 - Total Observed in 2019			Percent of Total	
Total Coast Live Oak (alive)	269	Total Alive	298	99.33%
Total Valley Oak (alive)	29	Total Dead	2	0.67%
Ratio Coast/Valley	9.3	Total	300	100.00%

Year 10 - Total Observed in 2020			Percent of Total	
Total Coast Live Oak (alive)	272	Total Alive	300	100.00%
Total Valley Oak (alive)	28	Total Dead	0	0.00%
Ratio Coast/Valley	9.7	Total	300	100.00%

Figure 15: Status comparison of Year 10 trees from 2019 to 2020.



Year 11 - Total Observed in 2019			Percent of Total	
Total Coast Live Oak (alive)	285	Total Alive	311	100.00%
Total Valley Oak (alive)	26	Total Dead	0	0.00%
Ratio Coast/Valley	11.0	Total	311	100.00%

Year 11 - Total Observed in 2020			Percent of Total	
Total Coast Live Oak (alive)	275	Total Alive	312	100.00%
Total Valley Oak (alive)	37	Total Dead	0	0.00%
Ratio Coast/Valley	7.4	Total	312	100.00%

Figure 16: Status comparison of Year 11 trees from 2019 to 2020.

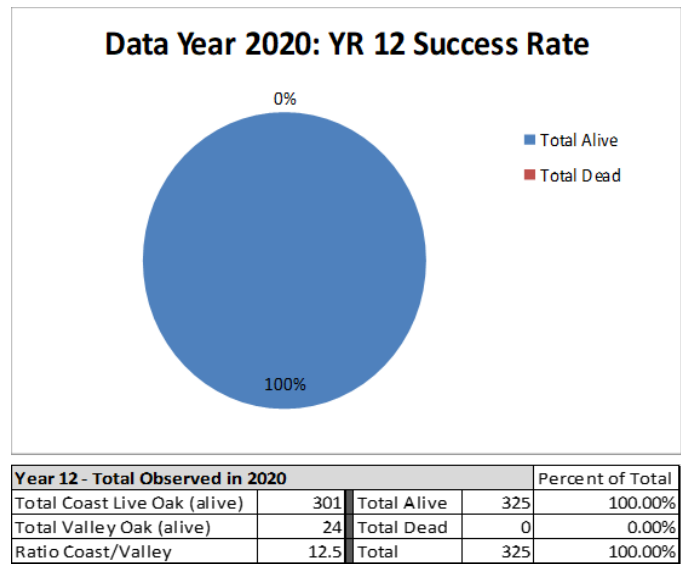


Figure 17: Data of Year 12 from 2020.

Maintenance

Maintenance of all planted oak trees in FY20/21 included irrigating, weeding, mulching, and deer cage maintenance is presented in Table 1. The total amount of water used from Lake Cachuma to irrigate oak trees from all year classes in FY20/21 was 1.54 acre-feet which was slightly higher than last year at 1.33 acre-feet. (Table 2).

Table 1: Cachuma Oak Tree Restoration Program completed maintenance in FY20/21.

	July 2020	Aug 2020	Sept 2020	Oct 2020	Nov 2020	Dec 2020	Jan 2021 ¹	Feb 2021 ¹	March 2021 ¹	April 2021	May 2021	June 2021	July 2021
Year 12 Oaks (2020-2021)						New Trees	New Trees	QA/QC	Irrigated	Irrigated	Irrigated	Irrigated	Irrigated
						Gopher Baskets	Gopher Baskets	Tree Tags	Weeded	Weeded	Weeded	Weeded	Weeded
						Fert/Comp	Fert/Comp						
						Deer Cages	Deer Cages						
						Mulch/Irrigated	Mulch/Irrigated						
Year 11 Oaks (2019-2020)		Irrigated	Irrigated		Irrigated	Irrigated	Irrigated			Irrigated	Irrigated		Irrigated
		Weeded	Weeded		Weeded	Weeded	Weeded			Weeded	Weeded		Weeded
Year 10 Oaks (2018-2019)	Irrigated	Irrigated		Irrigated	Irrigated	Irrigated	Irrigated			Irrigated	Irrigated		
	Weeded	Weeded		Weeded	Weeded	Weeded	Weeded			Weeded	Weeded		
													Deer Cages
Year 9 Oaks (2016-2017)	Irrigated	Irrigated		Irrigated	Irrigated	Irrigated					Irrigated		
	Weeded	Weeded		Weeded	Weeded	Weeded					Weeded		
													Deer Cages
Year 8 Oaks (2015-2016)	Irrigated	Irrigated	Irrigated		Irrigated						Irrigated	Irrigated	
	Weeded	Weeded	Weeded		Weeded						Weeded	Weeded	
Year 7 Oaks (2014-2015)			Irrigated										
			Weeded										
Year 6 Oaks (2010-2011)													
Year 5 Oaks (2009-2010)													
Year 4 Oaks (2008-2009)				Deer Cages									
Year 3 Oaks (2007-2008)				Deer Cages									
Year 2 Oaks (2006-2007)													
Year 1 Oaks (2005-2006)													

¹Oak tree inventory.

Table 2: Cachuma Oak Tree Restoration Program water usage from Lake Cachuma for irrigation during FY19/20.

	Gallons	Acre-feet
July	73,725	0.226
August	61,250	0.188
September	102,550	0.315
October	56,450	0.173
November	44,750	0.137
December	44,950	0.138
January	10,900	0.033
February	2,700	0.008
March	4,500	0.014
April	39,900	0.122
May	54,050	0.122
June	20,850	0.064
Total:	516,575	1.54

Financials

Annual expenses by Fiscal Year since the beginning of the Lake Cachuma Oak Tree Restoration Program in FY05/06 are presented in Table 3. The totals include COMB staff (plus burden) and consulting arborist hours, material, supplies, fuel expenses, GPS mapping, conducting the annual inventory, replanting trees over the period, and reporting. The breakout for those costs is presented by labor (Table 4) and the total cost (labor, materials, and supplies) (Table 5). The financials do include the Year 12 planting and mapping efforts.

Table 3: Total program costs by Fiscal Year including planting, maintenance, mapping, conducting the annual inventory, and reporting by year (Year-ID) and number of trees planted during those years.

# of Years	Fiscal Year	Operator	Year-ID	# Planted Trees	Cost
1	2005-2006	Fournier	1	375	\$116,731
2	2006-2007	Fournier	2	375	\$117,620
3	2007-2008	Fournier	3	375	\$138,786
4	2008-2009	Fournier	4	375	\$137,872
5	2009-2010	Fournier	5	379	\$136,900
6	2010-2011	Fournier	6	377	\$137,878
7	2011-2012	Fournier	-	-	\$79,439
8	2012-2013	COMB	-	-	\$101,431
9	2013-2014	COMB	-	-	\$48,097
10	2014-2015	COMB	7	909	\$134,054
11	2015-2016	COMB	8	824	\$128,241
12	2016-2017	COMB	9	301	\$101,227
13	2005-2018	COMB	DT	124	\$128,752
14	2018-2019	COMB	10	300	\$120,573
15	2019-2020	COMB	11	311	\$140,775
16	2020-2021	COMB	12	325	\$119,113
			Total:	5350	\$1,887,490

Table 4: Labor costs for the Lake Cachuma Oak Tree Program during FY20/21.

	Total
COMB Staff (hours):	
Seasonal Biologist Aide A	133.5
Seasonal Biologist Aide B	369.5
Seasonal Biologist Aide C	129
Seasonal Biologist Aide D	1115.5
Water Service Worker I	45
Water Service Worker III	27
Water Service Worker I	35
Administrative Analyst	41.25
System Analyst	
Biologist Assistant	1072.25
Project Biologist A	53.5
Project Biologist B	116.5
Senior Resource Scientist	83
Total Staff Hours:	3221
Cost - Labor plus burden	99,842.10
Consultant Service Hours (Ken Knight):	3
Consultant Cost	\$300.00
Total Personnel /Consultant Cost	\$100,142.10

Table 5: Total expenses (labor, materials and supplies) for the Lake Cachuma Oak Tree Program during FY20/21.

	Total
Materials and Supplies:	
Oak trees	\$5,913.04
Tree stakes	\$1,364.64
Tree tags	\$231.34
Mulch*	\$0.00
Compost	\$215.41
Fertilizer	\$622.41
Gopher baskets	\$2,210.51
Protective deer caging/netting	\$1,096.82
Hand tools	\$346.43
Hoses	\$1,089.12
PPE	\$188.74
Cable ties	\$4.28
Equipment mobilization	\$875.00
Vehicle Fuel Cost	\$1,750.78
Equipment Fuel Cost (incl. diesel H2O truck)	\$3,062.59
Total Materials and Supplies	\$18,971.10
TOTAL EXPENSES (labor, materials + supplies)	\$119,113.20
* S.B. County Park mulch source was used instead of purchase	

The total cost of the Lake Cachuma Oak Tree Restoration Program in FY20/21 was \$119,113 which includes any replanting and mapping costs of the Year 12 trees. Again, the total reflects personnel cost (labor plus burden), materials, supplies, expenses (vehicle and equipment fuel), and consultant fees. For comparison, during the first six years of the project annual consultant costs were approximately \$136,000 to plant approximately 375 and maintain the previously planted trees. In FY16/17, COMB staff planted 301 trees and maintained all previously planted trees (4,290 trees) at a cost of \$101,227. The ability to keep costs down is attributed to multiple factors, which include but are not limited to:

- Relying on the COMB Fisheries Division seasonal staff to conduct the bulk of field activities.
- Minimizing the amount of full-time staff being used.
- Reduced equipment needs as the bulk of purchases occurred during the fiscal year when COMB took over the project.
- Reduced consultant hours due to staff gaining more tree care experience.
- Reduced equipment (generator/pumps) gas consumption from more efficient irrigation hosing and better delivery technique for extracting water from Lake Cachuma.
- Repurposed salvaged deer cages and stakes from Program trees over 6 feet in height.

Summary and Recommendations for Program Improvements

There are 4,341 (including Year 12 trees) alive oak trees attributed to the mitigation effort of the Program. The survival rate to date is 80.28% (Years 1-12 and DT trees) which would be considered very respectful in any open range oak tree planting effort in a similar climate. The number of mitigation trees still to be planted is **380** trees to meet the mitigation target of 4,721 trees by 2025. It is recommended to continue planting next year (FY2021-22) approximately 300 more oak trees and replant approximately 80 oak trees that had perished in favorable established planting locations. This will get the Program to the mitigation target and will allow for several years before those trees need to be self-sustaining by 2025. New planting areas will be within the Lake Cachuma County Park and around Bradbury Dam.

Challenges for the Program, specifically tree survival, are seven of the last ten years of the Program experienced extraordinary drought conditions (WY2012-WY2021, except WY2017, WY2019, and WY2020), inadequate initial planting methodology during the first six years (compromised gopher wire baskets, trees planted too low, deer cages removed too soon, auger hole planting, etc.), and a limited staff to take care of an extensive number of trees. Some planting areas have better soils and topography than others, for example the Year 3 planting area has shallow soils with southern exposure whereas the Year 7 planting area is just the opposite.

Lessons learned by the COMB staff from nine years of conducting this Program have been put into practice and are recommended for future work, specifically:

- Start the annual tree inventory as soon as possible in the fall and swap out unreadable tags with new ones (Figure 17).
- Continue to carefully conduct the tree inventory to maximize accuracy and Program results.
- Systematically mulching all trees once a year, particularly newly planted trees (Figure 18).
- Maintain deer cages for all trees below deer browsing level (approximately 6 feet).
- Clear the dirt away from the tree trunk base.
- Expose gopher wire baskets at the surface wherever possible to prohibit gopher travel over the top of the wire basket.

- Plant new trees in professional gopher wire baskets using backhoe dug holes (no auger holes that limit the spread of tree roots) (Figures 19 and 20); plant the trees slightly above grade to accommodate subsidence; and use sturdy wire deer cages instead of netting or chicken wire.
- Plant well established trees from the nursery (at least a foot tall) instead of acorns as they have a better success rate.
- Structurally prune planted trees so that they can grow larger, taller and faster than unpruned trees thus becoming more likely to survive and be self-sustaining.
- Budget time for deer cage and stake removal once the oak trees are over 6 feet tall as this will need to be done as the Program sunsets.
- Carefully mow and/or weed-whack around trees for weed control and grade access roads to facilitate access for all maintenance tasks.
- Continue to use Grow-Tubes as they appear to be quite successful particularly in areas with poor soils and where surface rodent impacts are noticed, such as near brushy natural vegetation found along the margins of planting areas. Remove the Grow-Tubes once the trees are taller than the tube.
- Wrap the bottom of deer cages with fine mesh shade cloth to prohibit surface rodents from accessing planted trees in areas near the margins of planting areas.
- Gather acorns from the local area in August for Valley Oaks and September for Coast Live Oaks to be germinated and grown at a nursery for future plantings.
- Clear brush near any planted trees to discourage herbivory of Program trees.
- Educate the public about the Oak Tree Program to create appreciation and stewardship and work with the County Park managers to best protect newly planted trees (Figure 21).



Figure 17: Conducting the annual tree inventory (a + b) and replacing worn out tree tags (c + d).



Figure 18: Tree mulching and conducting the annual inventory.



Figure 19: Digging tree holes with the backhoe for planting.



Figure 20: Oak Tree Program planting of Year 12 trees showing (a) use of professional gopher cages, (b) staking for deer cages, (c) constructing welded wire deer cages, and (d) completed planted trees.

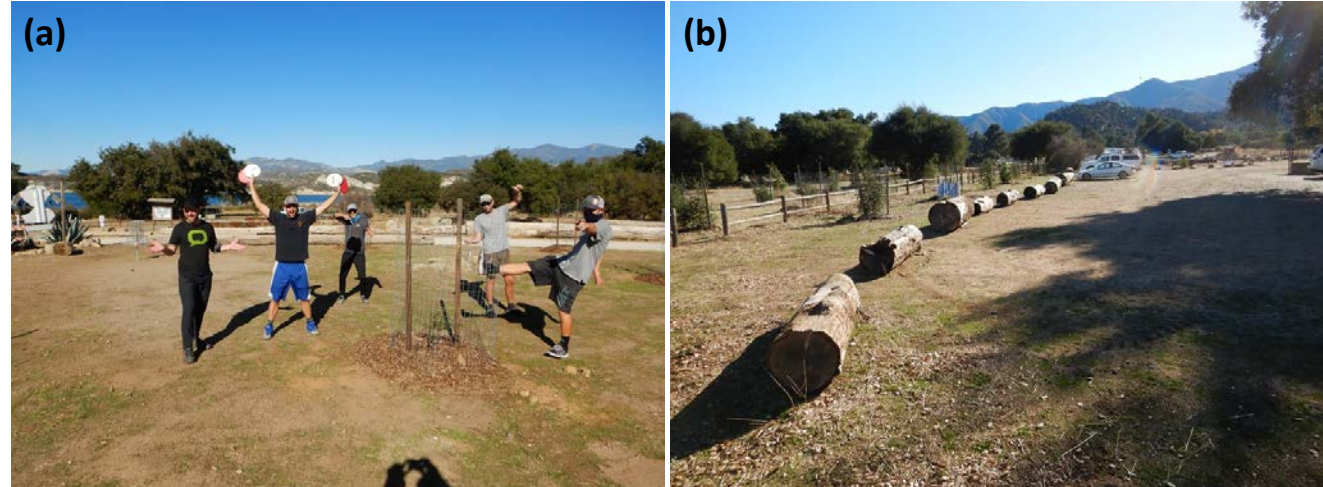


Figure 20: Working with the public on education of the Oak Tree Program (a, disk golfers) and County Park managers to protect planted oak trees (b, parking area at Mohawk).

References

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