



**Delivering Revenue, Insight
and Efficiency to Local Government**

**Fiscal Analysis of the
Commercial Cannabis Industry
and Tax Revenue Projections**

Prepared for

the

City of Half Moon Bay

June 15, 2018

Table of Contents

I.	Introduction	Page 3
II.	The Current State of the Cannabis Industry in the Half Moon Bay Region	Page 4
III.	Cannabis Nurseries	Page 7
	a. Operational Costs	Page 9
	b. Revenue Projections	Page 10
IV.	Commercial Cannabis Cultivation (Mature Plants)	Page 11
V.	State Tax Considerations	Page 14
VI.	Cannabis Retailers	Page 16
VII.	Cannabis Delivery Services	Page 17
VIII.	Cannabis Manufacturers	Page 18
IX.	Summary	Page 19
X.	Appendix	Page 20

I. Introduction

The City of Half Moon Bay has retained HdL Companies to provide a general economic analysis, fiscal analysis and revenue projections for the local cannabis industry. Though the City has, in the past, shown movement toward allowing and regulating various commercial cannabis activities, the Council has been responsive to public concerns and is now considering placing a nursery cultivation ordinance as well as several advisory measures on the November 2018 ballot that would gauge public interest in allowing commercial cultivation of mature plants, retail, and manufacturing within the City limits. It is unclear which, if any, commercial activities may be supported by the voters. To gather additional information about potential commercial cannabis activities, the City has requested that HdL provide reasonable projections of the number and size of each type of cannabis business, based upon population, location and proximity to the Bay Area, as well as potential tax revenue. These general projections are for future use, only.

This report also seeks to identify the local economic impacts of the cannabis industry, and to analyze any financial constraints, including the overall tax and regulatory burden, which may impact both the industry's long-term stability and its ability to successfully transition to a legal, regulated paradigm that can outcompete the existing black market.

Discussion of regulating and taxing the cannabis industry can too often overshadow the larger employment and economic development issues that typically accompany efforts to attract new industry. Word that a new business or industry is looking to bring new jobs to a community is more commonly met with open arms and offers of tax incentives. The cannabis industry is perhaps completely unique in that the inherent jobs and economic development benefits are welcomed more grudgingly and met with the disincentive of special taxes. While the tax revenue potential is attractive to local governments, imposing excessively high rates may reduce the number of businesses that step forward and decrease the likelihood that they will succeed in the regulated market. In this way, higher taxes could result in less revenue.

Legalization and regulation of commercial cannabis has exposed this industry to competitive free-market forces that it was previously shielded from due to prohibition. This has driven down wholesale prices precipitously at the same time that regulatory costs are climbing. As little as a year ago, HdL would have used assumptions of around \$1,500 per pound in our calculations. Today we commonly use a range of \$700 to \$1,000 per pound, depending upon the market sector. High tax rates may have been acceptable to the industry when it enjoyed high profit margins and few regulatory costs, but those same rates become prohibitive for what is now one of the most highly regulated industries in the State, struggling with declining profit margins.

California's cannabis industry is in a state of transition from its past as an underground, black market industry to one that is legal, regulated and taxed. This transition creates both opportunities and risks for host communities. We encourage the City to work proactively with the community and with the emerging industry to address local concerns. Doing so will allow the City to shape the local industry in a way that is compatible with community interests and values.

II. The Current State of the Cannabis Industry in the Half Moon Bay Region

Cannabis cultivation exists in every county and region in California, either legally or through the black market, though the size and nature of the industry can vary greatly from place to place. A Standardized Regulatory Impact Assessment (SRIA) prepared for the California Department of Food and Agriculture (CDFA) estimates statewide cannabis production at 13.5 million pounds per year, though its estimate of the amount of cannabis consumed by California residents is just 2.5 million poundsⁱ, suggesting a significant amount of overproduction that is presumably exported to other states through the black market. A separate study by Denver Relief Consulting put statewide consumption even lower, at 1.6 million poundsⁱⁱ.

The SRIA relies upon three sources of information: registered farms, eradicated, and mapped but unregistered farms. The data captured is assumed to be accurate, but it does not capture unknowns such as indoor cultivation sites that have escaped detection. It also does not distinguish between black market cultivation and those who are seeking to become legal. These figures also do not include small amounts of cannabis grown for personal use or cannabis that is imported from Mexico. Given these constraints, it is likely that the actual amount of cannabis grown in California is greater, perhaps even far greater, than the 13.5 million pounds projected.

This same study found that the Bay Area Region (which includes San Francisco, San Mateo, Alameda and Contra Costa counties) produces 750,000 pounds of cannabis annually, which amounts to just over 5% of the cannabis grown in California. 61% of the region's production is believed to be cultivated indoors, with 13% using mixed-light cultivation and 26% being produced outdoors. The high percentage of indoor cultivation likely reflects residential "garage grows", which are more common in urban areas where outdoor cultivation is disallowed and difficult to hide. The SRIA does not break down estimates of production for individual counties, nor does it differentiate between the unincorporated counties and the cities within their boundaries.

Neither the City of Half Moon Bay nor the County of San Mateo currently permit any commercial cannabis cultivation¹ and so we have no hard data to go by for estimating the amount of legal, commercial cultivation that may happen if the City were to allow it. However, the CDFA conducted an online survey in August of 2016 to gauge interest in the various commercial cannabis license types for each county in California. This data was gathered solely through self-reporting from respondents who took the survey anonymously on CDFA's website. The survey methods were neither detailed nor statistically robust, but the resulting numbers allow us to make some general comparisons.

The CDFA survey had 69 respondents showing interest in the various cultivation license types in all of San Mateo County (the survey did not distinguish between the unincorporated County and the cities). Applying standard assumptions for canopy size, production yield and harvests per year, we calculate that these respondents could potentially produce around 200,000 pounds of cannabis per year. By comparison, Contra Costa had 192 respondents capable of producing 500,000 pounds, San Francisco showed 230 respondents capable of producing 700,000 pounds, and Alameda County had 523 respondents, capable of producing an estimated 1.5 million pounds.

Combined, the survey respondents from these four counties could produce nearly 3 million pounds of cannabis per year, which is more than the 2.5 million pounds California's entire population consumes.

¹ San Mateo County adopted an ordinance allowing greenhouse cultivation in December of 2017, but so far none has been permitted.

However, if we assume the county-by-county breakdown may be a reasonable predictor of the relative level of interest in legal cannabis businesses, then San Mateo County as a whole would claim just 7% of the total production for the region.

Figure 1:

County	Cultivation Licenses
Alameda County	67
Calaveras County	191
Colusa County	0
Contra Costa County	3
El Dorado County	1
Fresno County	1
Humboldt County	770
Kern County	16
Lake County	33
Los Angeles County	149
Mendocino County	521
Monterey County	305
Orange County	1
Riverside County	126
Sacramento County	84
San Benito County	2
San Bernardino County	44
San Diego County	4
San Francisco County	24
San Luis Obispo County	14
San Mateo County	0
Santa Barbara County	875
Santa Clara County	23
Santa Cruz County	36
Shasta County	25
Siskiyou County	2
Solano County	1
Sonoma County	87
Stanislaus County	12
Trinity County	167
Tulare County	1
Yolo County	79
TOTAL LICENSES	3664

The California Department of Food and Agriculture’s CalCannabis Division has been issuing licenses for cultivation since shortly before the first of the year. As of May 29th, CalCannabis has issued no licenses of any kind anywhere in San Mateo County or any of its cities. In the Bay Area region, CalCannabis has issued 24 cultivation licenses in San Francisco, 3 in Contra Costa, and 67 in Alameda. To the South, the agency has issued 45 cultivation licenses in Santa Clara County, and 43 in Santa Cruz County.

These numbers are all very small when compared to Statewide totals. As of May 29th, CalCannabis has issued a total of 3,664 cultivation licenses, capable of producing nearly 7.3 million pounds of cannabis per year, which is more than three times as much as the entire State is estimated to consume.

From these numbers, it does not appear that Half Moon Bay or San Mateo County will be a large player in the cannabis cultivation industry, even if they were to allow for it. The Bay Area region is estimated to produce just 5% of the current 13.5 million pounds of black market cannabis, and licensing data shows an even smaller share of the legal market, at just 2%. The CDFR survey showed just 7% of the regional interest in cultivation licenses coming from San Mateo County as a whole, which would equate to just 0.14% of the State market.

As a policy consideration, the City of Half Moon Bay may look upon these figures as either discouraging or comforting. On the one hand, the amount of commercial cultivation is likely to remain small and thus

not provide a major source of jobs and revenue for the City. On the other hand, the City and its residents may take comfort in knowing that this industry is not likely to “take over” the community, displacing other companies that may be competing for the same greenhouse space.

Despite the currently oversaturated cannabis market in California, significant opportunity still exists, especially in the Bay Area which has almost 18% of the State’s population but only 2% of the State’s

licensed cultivators. Additionally, the Bay Area has 25% of the licensed cannabis manufacturers in the State. This access to both manufacturers and cannabis consumers should provide advantages for growers in Half Moon Bay who are trying to find a niche in a crowded market.

Figure 2:

CalCannabis Cultivation Licenses Issued Statewide as of 05/29/18					
Type of License	Total (as of 05/29/18)	Avg. SF	Total SF	Cycles	Yield @ 10sf/pd/cycle
Specialty Cottage Outdoor	29	2,000	58,000	1	5,800
Specialty Cottage Indoor	27	500	13,500	5	6,750
Specialty Cottage Mixed-Light Tier 1	77	2,000	154,000	3	46,200
Specialty Cottage Mixed-Light Tier 2	31	2,000	62,000	3	18,600
Specialty Outdoor	210	3,750	787,500	1	78,750
Specialty Indoor	273	3,750	1,023,750	4	409,500
Specialty Mixed-Light Tier 1	159	3,750	596,250	3	178,875
Specialty Mixed-Light Tier 2	36	3,750	135,000	3	40,500
Small Outdoor	855	7,500	6,412,500	1	641,250
Small Indoor	261	7,500	1,957,500	4	783,000
Small Mixed-Light Tier 1	819	7,500	6,142,500	3	1,842,750
Small Mixed-Light Tier 2	340	7,500	2,550,000	3	765,000
Medium Outdoor	222	32,670	7,252,740	1	725,274
Medium Indoor	115	16,500	1,897,500	4	759,000
Medium Mixed-Light Tier 1	109	16,500	1,798,500	3	539,550
Medium Mixed-Light Tier 2	101	16,500	1,666,500	3	499,950
Nursery	229				
Processor	57				
TOTAL CULTIVATION	3664		32,507,740		7,340,749
TOTAL ALL TYPES	3950				

III. Cannabis Nurseries

Half Moon Bay is well situated for cannabis nurseries. The coastal plain on which the City sits has a fog pattern very similar to the Salinas Valley in Monterey County, with an average of 9-10 hours of fog or low clouds per day during the Summerⁱⁱⁱ. The Salinas Valley has slightly higher temperatures, averaging between 48 and 68 degrees, as opposed to an average of 46 to 62 degrees for Half Moon Bay^{iv}.

Like Monterey County, Half Moon Bay's temperate coastal climate has helped make it an attractive location for the cut flower industry in the United States. Rocket Farms, which operates facilities in both Half Moon Bay and the Salinas Valley, claims to be "*the largest grower of indoor flowers, fresh cut herbs and potted edibles in the country*"^v. However, the cut flower industry took a hit with the passage of the Andean Trade Preference Act in 1991, which gave significant trade advantages to imported flowers from South America with the goal of creating legal alternatives to the drug trade. Today, between 50% and 60% of the U.S. cut flower market is sourced from Columbia^{vi}.

The decline of the cut flower industry has left host communities such as Monterey and Half Moon Bay with an abundance of dormant infrastructure that allowed easy adaptation to large scale cannabis production. Just as important as the abundant greenhouse space is the wealth of knowledge and experience among those who formerly operated these large-scale nurseries. Conversations with cultivators in such places suggests that this kind of "human capital" gives the local cannabis industry a distinct advantage over regions populated with growers who may have many years of experience with cannabis, but little or no experience running a legal, regulated, industrial horticulture operation.

As of May 29th, 2018, CalCannabis has issued 229 Type 4 Nursery licenses Statewide, with 72 of them in Monterey County. This is the highest number of licensed nurseries of any county, and the highest concentration of any one industry sector anywhere in the State. Second-placed Mendocino County has 42, followed by Riverside County with 19 and Santa Clara County with 22. Cannabis nurseries are a symbiotic fit for areas like Monterey and Half Moon Bay, which have abundant, available greenhouse space.

Nursery operations can vary greatly depending upon the methods and the types of tables or benches being used. Even within a single facility, there can be substantial differences in floor space utilization from the initial propagation to the finishing stage. Commonly, the initial propagation from the mother plant (or plants) takes about two weeks, during which the starts are held in an area equipped with misting systems. From there, the clones are transferred into a soil medium in small 4" pots (or similar) for another two to three weeks, after which they are again transferred into 1-gallon or 2-gallon (or larger) pots for another 4 weeks for finishing.

Finally, when the plants are nearing maturity, they are shipped to the grower who will carry them through to their flowering stage. An idealized cultivation operation will receive plants from the nursery in their "sub-adult" stage, just before they start to flower, minimizing the amount of time that valuable floorspace is taken up by non-flowering plants and thus maximizing the number of harvests that are possible per year.

The multiple stages of a nursery operation require flexible space utilization. A typical cannabis nursery operation is likely to utilize only around 50% of its floor space for plants at various stages, with broad aisles for tending plants and for moving plants around as they grow. This percentage may increase significantly with highly automated operations. At any given time, a nursery may have 15% of its space dedicated to propagation and cloning, 25% for starts in 4" pots, and 60% for plants in the vegetative growth ("veg") stage.

Some nurseries provide general stock on hand for “over-the-counter” sale to cultivators, but this is risky as the nursery would have to make a substantial investment in a variety of strains in the hope that that the strains they’ve produced are what their buyers want. This model also requires that a substantial amount of space is given up for maintaining a large stock of “mother plants” from which the saleable plants are cloned.

More commonly nurseries will propagate a specific strain (or strains) of cannabis plants under contract with a particular client. In such cases, the cultivator will specify the desired genetics and the number of starts per cycle that they want the nursery to provide to meet a particular production schedule. The nursery may take up to 4 months to develop enough “mother plants” to provide the necessary number of clones for the order. The nursery will commonly carry the plants through the veg stage until just before flowering. A cultivator may contract with a nursery to provide just one batch of plants for a single harvest, but more commonly these contracts will run for 2 to 5 years, providing plants according to a strict schedule to produce the desired number of harvest cycles per year. Contracts may be adjusted annually to reflect changes in market prices or demand.

Figure 3:

Inventory of Potential Nursery Sites			
Parcel	Size (sf)	Acres	Greenhouse (sf)
056-260-020	118,213	2.71	40,000
056-260-030	1,219,236	27.99	41,000
056-260-130	807,184	18.53	60,000
048-300-080	366,579	8.42	161,809
048-300-110	364,689	8.37	87,000
048-300-210	785,513	18.03	375,400
048-300-220	382,557	8.78	260,000
048-300-230	251,875	5.78	126,200
048-300-260	548,312	12.59	152,000
All Potential Nursery Sites			1,303,409

The City of Half Moon Bay is considering allowing cannabis nurseries only on parcels zoned A1 (Agriculture) which have existing greenhouses. The City has identified 9 parcels which meet these requirements. However, the City also has buffers which for some parcels may limit the amount of square footage that is available for cannabis production, whether nurseries or cultivation.

Figure 3 shows the 9 parcels zoned A1, with their size in both square feet and acres. Using Google Earth imagery, we were able to estimate the size of the existing greenhouse space on each parcel. Combined, these 9 candidate parcels comprise approximately 1,303,409 square feet of greenhouse space, or 30 acres. This figure

excludes what appear to be hoop-houses and does not deduct for the portion of any of these sites that may be precluded from cannabis cultivation due to the City’s defined buffer zones.

a. Operational Costs

In preparing this report, HdL interviewed a number of individuals involved in the cannabis industry in Half Moon Bay. Our report has also been informed by interviews with cannabis cultivators and greenhouse operators in other, similar coastal environments, including Santa Cruz, Monterey, and Santa Barbara.

Industry sources note that the base cost for leasing greenhouse space typically runs between \$6 to \$12 per square foot. However, cannabis is a very different crop than lettuce or cut flowers, and so reuse of these existing greenhouses commonly requires significant investment for conversion and retrofitting. Some of the existing greenhouses in Half Moon Bay are up to 60 years old, and a visual analysis using Google Earth shows lots of broken or missing glass with some of these facilities (Figure 4), suggesting the need for significant investment in rehabilitation and modernization.

Figure 4:



Adapting one of these existing structures to a modern cannabis nursery operation with climate controls to address humidity and pesticide drift can add \$20-\$25 per square foot, bringing the total cost for greenhouse space to around \$30-\$35 per square foot.

While the inherent humidity of a coastal climate can be problematic for flowering cannabis, it is beneficial for nurseries. Many nursery operations even install misting systems in their propagation area, to ensure that humidity stays within its optimal range.

Installing these systems may require additional capital investment when adapting or rehabilitating former cut flower greenhouses.

Handling nursery stock through multiple stages of growth requires a significant amount of movement of product within or between greenhouses. While a modest nursery facility may place plants directly on the floor, larger and better-capitalized operations will commonly use rolling benches and shelving systems to move plants from one stage of the operation to the next. These again carry increased infrastructure costs.

Depending upon the operation, the fixed facility costs for a fully outfitted turn-key greenhouse nursery can easily approach or even exceed \$100 per square foot, which is then amortized over time. This does not include the ongoing costs for soil and amendments, water, electricity, heating, labor, and business overhead, which might run around \$700,000 per year for a 40,000 square foot greenhouse.

Prospective cannabis nursery operators in Half Moon Bay that we spoke to for this analysis suggested that they were more likely to have more modest operations, at least initially, without flood tables, rolling benches or shelving systems. Such operations require less up-front investment, and so are lower risk. However, they also can be assumed to trade that lower capital investment for a higher labor cost and lower productivity.

b. Revenue Projections

HdL has reviewed over 1,200 applications, business plans, pro-formas and financial audits of cannabis businesses, including nurseries. While there is a range of sizes and operational models, an average model would be a 40,000 square foot operation generating around \$2.5 million in annual gross receipts. Depending upon the lease and financing terms, the amount of up-front investment needed for rehabilitation and upgrades, and other factors, it is very possible that operational costs may yield little or no profit in the first year, after which they should settle in to under \$2 million per year. These figures are prospective, and are based upon anticipated costs, yields and pricing.

Figure 5:

Comparative Revenue Projections for Potential Nursery Sites					
Parcel	Greenhouse (sf)	Canopy (sf)	Revenue @ \$1/sf	Gross Receipts	Revenue @1% GR
056-260-020	40,000	20,000	\$20,000	\$2,500,000	\$25,000
056-260-030	41,000	20,500	\$20,500	\$2,562,500	\$25,625
056-260-130	60,000	30,000	\$30,000	\$3,750,000	\$37,500
048-300-080	161,809	80,905	\$80,905	\$10,113,063	\$101,131
048-300-110	87,000	43,500	\$43,500	\$5,437,500	\$54,375
048-300-210	375,400	187,700	\$187,700	\$23,462,500	\$234,625
048-300-220	260,000	130,000	\$130,000	\$16,250,000	\$162,500
048-300-230	126,200	63,100	\$63,100	\$7,887,500	\$78,875
048-300-260	152,000	76,000	\$76,000	\$9,500,000	\$95,000
Totals	1,303,409	651,705	\$651,705	\$81,463,063	\$814,631

Figure 5 shows the comparative revenues that could potentially be generated by a tax on cannabis nurseries in Half Moon Bay, using either a tax on the square footage of canopy space or a tax on the gross receipts of the business. For the square footage tax, we assume the amount of taxable canopy area (the area that will actually contain cannabis plants at any stage of growth) at 50% of the overall greenhouse space. Applying a tax rate of \$1 per square foot would yield potential revenue to the City of \$651,705. We can project revenues from higher rates simply by multiplying this base rate, so that a rate of \$2 per square foot would yield \$1,303,410 and a rate of \$3 per square foot would yield \$1,955,115.

It's important to note that these projections assume all of the parcels under consideration are converted and utilized for cannabis nurseries. We caution that this is unlikely to be the case due to current market oversaturation, as discussed in Section II of this report. While there is still significant opportunity for cannabis nurseries in the Bay Area region, those nurseries would have to provide product to cultivators that are within a reasonable delivery distance.

Using a tax on the gross receipts of the business, we assume that a typical 40,000 square foot operation would generate an average of \$2,500,000 per year in gross receipts. We apply this figure proportionally (\$62.50 per square foot) to anticipate the potential receipts from larger size operations. From this, a gross receipts tax of 1% would generate potential revenue to the City of \$814,631 per year. We can project revenues from higher rates simply by multiplying this base rate, so that a 2% rate would yield \$1,629,262, and a 3% rate would yield \$2,443,893.

IV. Commercial Cannabis Cultivation (Mature Plants)

The same coastal climate that makes regions like Half Moon Bay and the Salinas Valley ideal for cannabis nurseries can be far less attractive for cultivation of flowering plants. Flowering cannabis is not well suited to humid conditions, which can lead to mold or fungus. Frequent fog limits the amount of natural sunlight available, increasing the need for supplemental light.

The lesser amount of light available necessitates somewhat broader spacing between plants to ensure that the light can penetrate into the canopy. This results in a smaller average yield than we might expect to see in other areas. We typically assume that canopy covers 75% of the cultivation area, but coastal growers we have spoken with for this and other studies report that they average 50% to 65%. We commonly use a yield figure of 45 grams per square foot (or 1 pound per 10 square feet) in our analyses, but growers noted a range of 15 to 40 grams per square foot. While a Tier 2 mixed-light grow might ideally be capable of up to 4 cycles per year, growers in coastal areas note that they are more likely to yield just 2 to 3 cycles, with an average of 2.5.

These conditions limit both the per-cycle yield and the number of harvests possible, and ultimately produce a lower-grade product. Many greenhouse cultivators we spoke with in Salinas noted that the cannabis they are producing is being sold into the lower-price “commercial grade” market for extraction of cannabis oil. While dried flower can sell for around \$1,000 per pound, cannabis sold for extraction might sell for \$500 per pound or less. Cannabis cultivation in the City’s coastal greenhouses would likely struggle to be competitive with product grown elsewhere, either in sunnier locations or indoors. It is likely that cannabis nurseries would remain the dominant sector.

Though tax rates for cultivation and other commercial cannabis activities vary around the State, there appear to be developing norms. HdL is currently working with 25 local governments around California on tax measures for the upcoming June and November 2018 ballots. The common rates we are seeing for mixed-light (greenhouse) cultivation are between \$4 and \$7 per square foot. The range for nurseries is between \$1 and \$2 per square foot. The rates for other cannabis businesses are commonly from 2% up to 6% of gross receipts. Testing laboratories, as an exception, fall between 1% and 2%, in recognition of the quasi-regulatory function they provide. These rates are shown in Figure 6, below.

Figure 6:

Common Local Tax Rates Among 2018 Ballot Measures		
Cannabis Business Type	Initial Rate	Maximum Rate
Cultivation (greenhouse)	\$4 per square foot	\$7 per square foot
Nurseries	\$1 per square foot	\$2 per square foot
Manufacturing	2.5% of gross receipts	4% of gross receipts
Distribution	2% of gross receipts	3% of gross receipts
Retail	4% of gross receipts	6% of gross receipts
Testing	1% of gross receipts	2.5% of gross receipts

Were the City to allow commercial cultivation, it is assumed that it would do so with the same zoning and the setback limitations that it is considering for nurseries. Ultimately, then, this would be an alternate use for the same existing greenhouses on the 4 parcels zoned A1 that were identified for nurseries.

To determine the potential revenue that could be generated from cultivation we must apply a different set of assumptions. For a coastal environment, we would assume the taxable canopy area would amount to 65% of the overall greenhouse space. To this, we have applied two different rate structures; a tax on the square footage of canopy, and a tax on the gross receipts of the business.

Figure 7, below, shows the potential revenue that could be generated by applying common rates ranging from \$4 per square foot up to \$7 per square foot. A rate of \$4 per square foot would generate \$3,388,863 in annual revenue. A rate of \$5 per square foot would generate \$4,236,079, and a rate of \$7 would generate \$5,930,511.

Figure 7:

Revenue Projections for Potential Cannabis Cultivation, Square Footage					
Parcel	Greenhouse (sf)	Canopy (sf)	Revenue @ \$4/SF	Revenue @ \$5/SF	Revenue @ \$7/SF
056-260-020	40,000	26,000	\$104,000	130,000	\$182,000
056-260-030	41,000	26,650	\$106,600	133,250	\$186,550
056-260-130	60,000	39,000	\$156,000	195,000	\$273,000
048-300-080	161,809	105,176	\$420,703	525,879	\$736,231
048-300-110	87,000	56,550	\$226,200	282,750	\$395,850
048-300-210	375,400	244,010	\$976,040	1,220,050	\$1,708,070
048-300-220	260,000	169,000	\$676,000	845,000	\$1,183,000
048-300-230	126,200	82,030	\$328,120	410,150	\$574,210
048-300-260	152,000	98,800	\$395,200	494,000	\$691,600
Totals	1,303,409	847,216	\$3,388,863	\$4,236,079	\$5,930,511

Figure 8 shows the annual revenue that could be generated by applying a tax on the gross receipts of the business. The gross receipts for each cultivation facility are estimated by assuming every 10 square feet of canopy will produce 1 pound of cannabis per harvest, and that greenhouse cultivation will produce three harvests per year. Lastly, we assume a value of \$750 per pound. While this figure may be low, we believe it is best to be conservative as prices have been in steady decline over the past year.

Figure 8:

Revenue Projections for Potential Cannabis Cultivation, Gross Receipts							
Parcel	Greenhouse (sf)	Canopy (sf)	Yield @ 3 cycles	Value @ \$750/lb	Revenue @ 2% GR	Revenue @ 3% GR	Revenue @ 4% GR
056-260-020	40,000	26,000	7,800	\$5,850,000	\$117,000	\$175,500	\$234,000
056-260-030	41,000	26,650	7,995	\$5,996,250	\$119,925	\$179,888	\$239,850
056-260-130	60,000	39,000	11,700	\$8,775,000	\$175,500	\$263,250	\$351,000
048-300-080	161,809	105,176	31,553	\$23,664,566	\$473,291	\$709,937	\$946,583
048-300-110	87,000	56,550	16,965	\$12,723,750	\$254,475	\$381,713	\$508,950
048-300-210	375,400	244,010	73,203	\$54,902,250	\$1,098,045	\$1,647,068	\$2,196,090
048-300-220	260,000	169,000	50,700	\$38,025,000	\$760,500	\$1,140,750	\$1,521,000
048-300-230	126,200	82,030	24,609	\$18,456,750	\$369,135	\$553,703	\$738,270
048-300-260	152,000	98,800	29,640	\$22,230,000	\$444,600	\$666,900	\$889,200
Totals	1,303,409	847,216	254,165	\$190,623,566	\$3,812,471	\$5,718,707	\$7,624,943

The rates of 2%, 3% and 4% of gross receipts were chosen because they approximate the same range of tax revenue as the three square-footage rates. When these rates are applied to the assumptions above, they result in annual revenue of between \$3,812,471 and \$7,624,943, as shown in Figure 8.

As with nurseries, we would caution the City that these projections assume all of the parcels under consideration are utilized for cultivation, which is unlikely to be the case. The City may also want to limit the number of A1 parcels being utilized for cannabis as a matter of policy. We would encourage the City to base any revenue projections on a smaller percentage of these parcels being converted for such use.

The City has an estimated 1.3 million square feet of greenhouse space that is currently being utilized for a variety of garden plants, vegetables, nursery starts and cut flowers. A single parcel may have dozens of greenhouses, each of which may be producing multiple products at one time, instead of just a single monocrop. It is likely that cannabis nurseries or cultivation would utilize this space in the same way, by leasing individual greenhouse spaces rather than converting an entire parcel.

The largest license size available for mixed-light cultivation (Type 3B) is limited to 22,000 square feet, and CalCannabis limits those licenses to one per licensee. The Type 2B license is limited to 10,000 square feet, but there is no limitation on the number of those licenses a single licensee may hold, making them far more common. The smallest of the candidate parcels (056-260-020) has 40,000 square feet of greenhouse space, and the largest (048-300-210) has 375,400 square feet. Any of the parcels in the City's inventory would be able to accommodate a number of separate cannabis licenses, potentially by different licensees, in addition to housing current uses in neighboring greenhouses.

We believe the most likely scenario for the City, assuming both cannabis nurseries and cultivation were both permitted, is that up to 20% of the available greenhouse space might reasonably be utilized for commercial cannabis operations. This would amount to 260,000 square feet of total cultivation area, with a correspondingly smaller proportion of actual canopy. For purpose of revenue projections, we shall anticipate that perhaps 40% of that space (104,000 square feet) would be used for nurseries and 60% (156,000 square feet) would be used for cultivation.

Based on this scenario, and using the same assumptions as in Figures 7 and 8, above, we anticipate that a tax rate of \$1 per square foot for nurseries would generate \$52,000 in annual revenue for the City of Half Moon Bay. A rate of \$2 per square foot would generate \$104,000, and a rate of \$3 would generate \$156,000. If the same area of nursery space was taxed on gross receipts, a rate of 1% would generate \$65,000 in annual revenue, a rate of 2% would generate \$130,000, and a rate of 3% would generate \$195,000.

Assuming 156,000 square feet of greenhouse cultivation space, applying a tax rate of \$4 per square foot would generate \$405,600 in annual revenue to the City, a rate of \$5 per square foot would generate \$507,000 and a rate of \$7 per square foot would generate \$709,800. Applying a tax on gross receipts to the same scenario, a rate of 2% would generate \$456,000, a rate of 3% would generate \$684,450, and a rate of 4% would generate \$912,600.

V. State Tax Considerations

To determine what local tax rates or structures might be most appropriate, they must be considered in the context of other taxes imposed by the State. Any local taxes will be in addition to those taxes applied through the Adult Use of Marijuana Act (AUMA), which imposes both a 15% excise tax on purchases of cannabis or cannabis products and a separate cultivation tax on harvested cannabis that enters the commercial market, as well as sales tax. Taxes are most commonly expressed as a percent of price or value, so some method of conversion is necessary to allow development of an appropriate cultivation tax based on square footage.

The State cultivation tax is set at a rate of \$9.25 per ounce of dried flower or \$2.75 per ounce of dried leaf. Because these rates are set per ounce, rather than as a percentage of price paid, the tax is the same whether the cultivator is producing commercial-grade cannabis at \$500 per pound or top-grade cannabis at \$2,500 per pound. The cultivator is generally responsible for payment of the tax, though that responsibility may be passed along to either a manufacturer or distributor via invoice, at the time the product is first sold or transferred. The distributor is responsible for collecting the tax from the cultivator upon entry into the commercial market, and remitting it to the Board of Equalization.

The cultivation tax of \$9.25 per ounce of dried flower is equivalent to \$148 per pound. Just a year ago, HdL would have assumed an average wholesale market price for dried flower of around \$1,480 per pound, which would make that \$148 equal to 10% of value. Since then, however, prices have plummeted. Competitive market forces enabled by legalization have brought the average price for cannabis down to around \$1,000 per pound, or even less (cannabis prices vary greatly based on quality of the product)^{vii}.

Our discussions with greenhouse cultivators in other coastal communities suggest that they primarily produce commercial grade cannabis for extraction, with an average price around \$750 per pound. If we apply the 9.25 per ounce to this lower average price, then it represents approximately 20% of value. We shall generally round up to 20% for purposes of the calculations in this analysis.

Conversations with cannabis industry trade groups suggest that the cumulative tax rate on the end product should remain at or around 30%. Higher rates create too much price disparity between legal and illegal cannabis, making it harder for the regulated industry to compete with the black market. Higher local tax rates can also make a county or city less attractive to the industry, especially for manufacturers and distributors, which have greater flexibility in choosing where to locate. We believe that setting rates that adhere to this 30% rule will help keep the local cannabis industry competitive with other cultivators across California, thus encouraging the transition to a legal industry.

Figure 9 shows how the cumulative tax rate on cannabis builds as the product moves towards market (note: manufacturers are not included in this cumulative chart because there are too many product variables to consider). The combination of taxes on cultivation hover around 30.07%, including a local cultivation tax equivalent to 3% of value, which is roughly comparable to a rate of \$7 per square foot for greenhouse cultivation yielding 3 harvests per year.

After the distributor's markup is figured in, the tax as a percentage of total price comes down to 19.39%, including a local tax of 2%. Both the local tax and the State 15% excise tax are added to the final retail price, bringing the total amount of taxes paid to \$742 per pound, or 24.12%. Non-medical purchases would pay an additional 8.75% retail sales tax, for a total tax paid of \$1,012 per pound, and a total tax rate of 30.22%. Of this total, the cumulative local tax in this scenario would be 6.82%, or \$228.31.

Figure 9:

Cumulative Cannabis Taxes			
Category	Amount	Increase	Cumulative Price
Producer Price	\$750	\$750	\$750
State Cultivation Tax	\$9.25/oz	\$148	\$898
Local Tax	3.00%	\$23	\$921
Batch Testing	\$50/lb, + 0.50%	\$55	\$976
Wholesale Price w/ Taxes		\$976	
Total Tax at Wholesale		\$226	
Tax as %		30.07%	
Distributor Markup	30.00%	\$293	\$1,268
Local Tax	2.00%	\$25	\$1,294
Total Distributor Price		\$1,294	
Total Taxes at Distributor		\$251	
Total Tax as %		19.39%	
Retailer Markup	100.00%	\$1,294	\$2,587
Local Tax	4.00%	\$103	\$2,691
State Excise Tax	15.00%	\$388	\$3,079
Total Retailer Price		\$3,079	
Total Taxes at Retail		\$742	
Total Tax as %		24.12%	
CA Sales Tax (non-medical)	6.25%	\$192	\$3,271
Local Sales Tax	2.50%	\$77	\$3,348
Total Taxes at Retail		\$1,012	
Total Tax as %		30.22%	
Total Local Tax		6.82%	\$228.31

The 15% excise tax is measured by the average market price at retail (currently about \$10 per gram for dried flower, which works out to approximately \$4,500 per pound at the one-gram unit price), instead of by the actual gross receipts. In this way, neither the cultivation tax nor the excise tax are based on the actual price paid for the product. However, our model diverges a bit from this pricing, as the \$750 per pound price is assumed to be primarily for extraction. At an assumed price of \$1,000 per pound, our model tracks closely with these average retail prices for a gram of flower.

Though a total tax of around 30%-31% would almost certainly be considered high for any other business or product, it is still within the range of taxes imposed by other states that have legalized cannabis^{viii}. The State of Colorado charges combined State taxes of 23% on retail (non-medical) cannabis. Combined State and local sales taxes can

range greatly from 2.9% to 11.2%, but are commonly around 4.9% in unincorporated areas. This would give us a comparison rate of 27.9%. Oregon originally imposed an excise tax of 25%, which was later reduced to 17%. Local jurisdictions are allowed to impose an additional 3% local tax, which would bring the total to 20%, but there is otherwise no additional state or local sales tax in Oregon. The State of Washington imposes a 37% excise tax on cannabis before any regular state or local sales taxes are applied. These are commonly around 8.1% in unincorporated areas, which would give a total of 45.1%

VI. Cannabis Retailers

California provides a single license type for cannabis retailers (Type 10), though it is available in both M (Medical) or A (Adult Use) versions. The Bureau of Cannabis Control created an additional Type 9 license for non-storefront retailers which conduct retail cannabis sales exclusively by delivery. Local jurisdictions have the authority to allow either or both types of retailers, under either or both M and A designations.

The Bureau of Cannabis Control projects that more than half of the adult use purchases currently in the black market will transition to the legal market to avoid the inconvenience, stigma and risks of buying unknown product through an unlicensed seller^{ix}. Essentially, the easier, cheaper and more reliable it is for consumers to access quality cannabis legally, the less reason they will have to purchase it through the black market. That same study projects that 60% of those currently in the legal, medical cannabis market will shift to the adult use market, for the reasons noted above. The availability of legal adult use cannabis is also anticipated to produce a small 9.4% increase in consumer demand.

The number of cannabis retailers that a city or county can support can be estimated based upon population and neighboring communities. Half Moon Bay has a population of approximately 12,000 people, with an additional 12,000 people in the surrounding unincorporated area from Moss Beach to Pescadero. This gives a potential customer base of approximately 24,000 people.

A 2015 survey by the Humboldt Institute for Interdisciplinary Marijuana Studies^x found an average of 4-6 retailers (or dispensaries) for every 100,000 people statewide, and likely more in communities with higher social acceptance and use. From this, we anticipate that the population of Half Moon Bay and the surrounding area could support 1 or 2 cannabis retailers. Given the high amount of tourism and visitor traffic, we believe that 2 retailers would be sustainable.

The gross receipts for retailers is variable depending upon the number of retailers serving a given population, so it's reasonable to expect that more retailers will mean fewer customers for each and, thus, lower gross receipts. HdL has reviewed confidential sales tax data for over 1,400 cannabis-related businesses. This data suggests that gross receipts for cannabis retailers commonly range from \$1,000,000 to \$4,000,000, with a midpoint around \$2,500,000. We would expect that 2 retailers in Half Moon Bay would share the local market and so they would likely be much smaller storefronts with lower individual receipts. For the purpose of revenue projections, we will assume that the City could support 2 retailers with average gross receipts of \$2,000,000 each.

Figure 10:

Cannabis Retailers						
License Type	# of Licenses	Avg Gross Receipts	Total Gross Receipts	Revenue @ 4.0% Tax Rate	Revenue @ 5.0% Tax Rate	Revenue @ 6.0% Tax Rate
Retailers	2	\$2,000,000	\$4,000,000	\$160,000	\$200,000	\$240,000

Figure 10 shows the amount of revenue that could be generated under these assumptions, applying the range of rates shown in Figure 6. A tax of 4% on gross receipts would generate \$160,000 annually. A tax of 5% would generate \$200,000, and a tax of 6% would generate \$240,000.

VII. Cannabis Delivery Services

There are currently no legally-operating cannabis retailers anywhere in San Mateo County. The nearest licensed retailers would be an hour drive or more to San Francisco, San Jose or Santa Cruz. However, this does not prevent consumers in Half Moon Bay from accessing cannabis through unlicensed delivery services. The Weedmaps website (weedmaps.com) lists approximately 85 unlicensed delivery services in San Mateo County, including 3 that serve Half Moon Bay.

There is currently a lack of legal clarity around cross-jurisdictional delivery of cannabis products, but some cities require cannabis retailers to obtain a permit to be allowed to deliver within their city limits, even if they are located elsewhere. Many of these cities impose a tax on all delivery businesses, whether licensed or not, though they may be unlikely to actually collect any revenue from illegal and unlicensed businesses. Projecting revenue from cannabis delivery services is very different than projections for storefront retailers. Taxing storefront retailers may capture sales from the surrounding area as well as sales from visitors and tourism, while taxing deliveries is limited to those sales that happen within the City limits.

Estimates of the percentage of the population that uses cannabis vary from around 10% to 13%^{xi}, up to as high as 22%^{xii}. While our estimate for retailers located within the City captured a potential client base of 24,700, our estimate for capturing sales from delivery services is limited to the City's own population of 12,700. From this figure, we then apply a range of assumptions for the percentage of consumers who use delivery services for their purchases. This ranges from 30% up to 60%^{xiii}, with a midpoint of 45%. Given Half Moon Bay's population of roughly 12,700, these two assumptions yield an estimate of cannabis delivery customers from a low of 381 to a high of 1,676, with a midpoint of 914.

The average cannabis transaction is \$73, and average frequency of purchases is twice a month^{xiv}. Applying these figures to the customer base, above, we develop a range of gross receipts generated by Half Moon Bay residents of between \$667,512 and \$2,937,053, with a midpoint of \$1,602,029.

When we apply the proposed rates to the mid-point estimate of gross receipts, we project that a tax of 4% would generate \$852,733 in annual revenue, a tax of 5% would generate \$1,065,917, and a tax of 6% would generate \$1,279,100 in annual revenue to the City, with a midpoint estimate of \$96,122. These estimates are shown in Figure 11, below.

Figure 11:

Revenue Projections for Cannabis Delivery Tax in the City of Half Moon Bay			
	Low Estimate	Mid-Point Estimate	High Estimate
City population	12,700	12,700	12,700
Percentage of population that uses cannabis	10.0%	16.0%	22.0%
Number of cannabis users	1,270	2,032	2,794
Percentage of cannabis users that use delivery	30.0%	45.0%	60.0%
Number of delivery customers	381	914	1,676
Average transaction amount	\$73	\$73	\$73
Transaction frequency (per month)	2	2	2
Monthly gross receipts	\$55,626	\$133,502	\$244,754
Annual gross receipts	\$667,512	\$1,602,029	\$2,937,053
Annual revenue by tax rate (below)			
4%	\$26,700	\$64,081	\$117,482
5%	\$33,376	\$80,101	\$146,853
6%	\$40,051	\$96,122	\$176,223

VIII. Cannabis Manufacturers

The manufacturing sector is still evolving and expanding, which presents significant opportunities for innovation, business development and job growth. The range of products being produced includes an ever-increasing variety of edibles such as candies, cookies, dressings, and infused drinks. Manufacturers may produce their own extract on site, or they may buy extract from other Type 6 or Type 7 licensees. Much like any other industry, cannabis manufacturers often depend upon other businesses to supply them with the various materials or components that go into their final product. These suppliers do not have to be located in or even near the same jurisdiction as the final manufacturer, and may be located anywhere throughout the state.

Some manufacturers may handle all steps from extraction to packaging the end-product in the form of vape pens or other such devices. Others may handle only discreet steps, such as making the raw BHO, which is then sold either directly to retailers or to a Type N manufacturer who will package it into vapor cartridges or other end consumer products. Manufacturers also produce a wide variety of tinctures, as well as topicals such as cannabis infused lotions, salves, sprays, balms, and oils.

As of April 10th, the Manufactured Cannabis Safety Branch (MCSB) of the California Department of Public Health has issued 688 temporary licenses Statewide. Of these, 356 are for non-volatile extraction, 243 are for volatile extraction, 66 are for non-extraction manufacturing and 23 are for packaging and labeling. These 688 licenses are held by 398 unique businesses. Most of the duplicate licenses held by a single manufacturer are to allow for both “A” (Adult Use) and “M” (Medicinal Use) manufacturing.

MCSB estimates that there are approximately 1,000 cannabis manufacturing businesses in California, employing 4,140 people. This is an average of 4 new jobs per manufacturer, though this figure likely varies significantly depending on the size and nature of the business.

Attempting to apportion these 1,000 manufacturers across California on a county by county basis is difficult. Our assumption is that these businesses will seek out those communities that offer the best mix of amenities, including access to suppliers and the market, related support industries, a welcoming business and social climate and favorable taxes and regulations. With its small population, relative isolation and limited opportunities for commercial cultivation, Half Moon Bay is unlikely to attract more than a small number of manufacturers. Manufacturers that do locate here would likely do so because it’s where the business’ owners live, rather than attracting a business from elsewhere.

HdL has reviewed pro-formas for numerous cannabis manufacturers seeking permits in counties and cities throughout California. From this review we have seen a range of gross receipts from around \$1 million to over \$5 million, with an average in the range of \$2 million to \$3 million. For our analysis, we assume that the City could support perhaps two small manufacturers, which would likely be more of the artisan or boutique scale. We shall use an average of \$1.5 million for purposes of this analysis. When we apply the common range of tax rates shown previously in Figure 6, these businesses could generate between \$75,000 and \$120,000 in annual revenue for the City.

Figure 12:

Commercial Manufacturers						
Type 6/7/N/P Manufacturer	# of Licenses	Avg Gross Receipts	Total Gross Receipts	Revenue @ 2.5% Tax Rate	Revenue @ 3.0% Tax Rate	Revenue @ 4.0% Tax Rate
Manufacturers	2	\$1,500,000	\$3,000,000	\$75,000	\$90,000	\$120,000

IX. Summary

Applying the range of tax rates described in this report, we estimate that a tax of \$1 per square foot on cannabis nurseries could generate up to \$651,705 per year for the City of Half Moon Bay, and a tax of 1% of gross receipts could generate up to \$814,631 per year. However, these projections assume that all of the available greenhouse space on every candidate parcel is utilized for cannabis. This is a highly unlikely scenario.

Assuming that all of the candidate parcels are utilized for cultivation of mature plants, applying a tax of \$4 per square foot would generate up to \$3,388,863 in annual revenue and a tax of \$7 per square foot would generate up to \$5,930,631. Using a tax on gross receipts, a tax rate of 2% would generate annual revenue up to \$3,812,471, and a rate of 4% would generate up to \$7,624,943. Again, though, these “maximum” scenarios should be regarded as highly unlikely.

We believe a more likely scenario is that up to 20% of the existing greenhouse space on the candidate parcels might reasonably be converted for commercial cannabis, with a 60/40 split between cannabis cultivation and cannabis nurseries.

Based on this scenario, a tax rate of \$1 per square foot for nurseries would generate \$52,000 in annual revenue for the City of Half Moon Bay. A rate of \$2 per square foot would generate \$104,000, and a rate of \$3 would generate \$156,000. If the same area of nursery space was taxed on gross receipts, a rate of 1% would generate \$65,000 in annual revenue, a rate of 2% would generate \$130,000, and a rate of 3% would generate \$195,000.

Applying this scenario to cultivation, a tax rate of \$4 per square foot would generate \$405,600 in annual revenue to the City, a rate of \$5 per square foot would generate \$507,000 and a rate of \$7 per square foot would generate \$709,800. Applying a tax on gross receipts to the same scenario, a rate of 2% would generate \$456,000, a rate of 3% would generate \$684,450, and a rate of 4% would generate \$912,600.

Figure 13:

Business Type	Quantity	Low tax rate	Revenue	High Tax Rate	Revenue
Nurseries (SqFt)	104,000 sf	\$1/sf	\$52,000	\$3/sf	\$156,000
Nurseries (%GR)	104,000 sf	1 %	\$65,000	3%	\$195,000
Cultivation (SqFt)	156,000 sf	\$4/sf	\$405,600	\$7/sf	\$709,800
Cultivation (%GR)	156,000 sf	2%	\$456,000	4%	\$912,600
Retailer	2	4.0%	\$160,000	6.0%	\$240,000
Manufacturer	2	2.5%	\$75,000	4.0%	\$120,000
Total (SqFt)			\$692,600		\$1,225,800
Total (%GR)			\$756,000		\$1,467,600

When combined with cannabis manufacturers and retailers, permitting these commercial cannabis businesses within the City of Half Moon Bay could reasonably generate between \$692,000 and \$1,467,600 in annual revenue to the City, depending upon the tax structure selected and the specific rates. These combined rates and revenues are shown in Figure 13, above.

X. Appendix

Legal and Regulatory Background for California	Page 21
General Economic Impacts	Page 25
References	Page 27

Legal and Regulatory Background for California

The legal and regulatory status of cannabis in the State of California (“State”) has been continually evolving ever since the passage of Proposition 215, the Compassionate Use Act of 1996 (“the CUA”), which decriminalized the use, possession and cultivation of cannabis for qualifying patients and their primary caregivers when such use has been recommended by a physician. The CUA did not create any regulatory program to guide implementation, nor did it provide any guidelines for local jurisdictions to establish their own regulations.

The lack of legal and regulatory certainty for medical marijuana (or cannabis) continued for nearly 20 years, until the passage of the Medical Cannabis Regulation and Safety Act (“MCRSA”) in October of 2015. MCRSA created a State licensing program for commercial medical cannabis activities, while allowing counties and cities to maintain local regulatory authority. MCRSA required that the State would not issue a license without first receiving authorization by the applicable local jurisdiction.

Under MCRSA, commercial medical cannabis activities are regulated by a variety of State agencies. The California Department of Food and Agriculture (CDFA) established a new CalCannabis division, which will create, issue, and suspend or revoke licenses for the cultivation of medical cannabis. The Bureau of Medical Cannabis Regulation (later renamed the Bureau of Cannabis Control, or BCC) in the Department of Consumer Affairs, will administer, enforce, create, issue, renew, discipline, suspend, and/or revoke licenses for distributors, testing laboratories, and retailers. The California Department of Public Health’s newly created Manufactured Cannabis Safety Branch (MCSB), will license cannabis product manufacturers, and will develop standards for the production and labeling of all medical cannabis products.

On November 8, 2016, the voters of the State of California approved Proposition 64, the Adult Use of Marijuana Act (“the AUMA”), which allows adults 21 years of age or older to legally grow, possess, and use marijuana for non-medical purposes, with certain restrictions. The AUMA requires the State to regulate non-medical marijuana businesses and tax the growing and selling of medical and non-medical marijuana. Cities and counties may also regulate non-medical marijuana businesses by requiring them to obtain local permits or restricting where they may be located. Cities and counties may also completely ban marijuana related businesses if they so choose.

On June 27, 2017, the State of California passed SB 94, which repealed MCRSA and incorporated certain provisions of MCRSA into the licensing provisions of AUMA. These consolidated provisions are now known as the Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA). MAUCRSA revised references to “marijuana” or “medical marijuana” in existing law to instead refer to “cannabis” or “medicinal cannabis,” respectively. MAUCRSA generally imposes the same requirements on both commercial medicinal and commercial adult-use cannabis activity, with certain exceptions.

All State license types other than Type 8 Testing Laboratories shall be designated either “A” for Adult Use or “M” for Medical”. A single licensee will be allowed to hold both A and M licenses, but it’s unclear whether they will be able to operate both on the same premises.

MAUCRSA incorporated the Type 5, 5A and 5B cultivation licenses from AUMA, which will allow for cannabis farms of unlimited size. No Type 5 licenses will be issued before 2023, however, and local jurisdictions will still retain the authority to disallow or limit the size of cannabis cultivation. It is anticipated that CDFA will limit the number of Type 5 licenses, but this is not yet clear.

AUMA and MAUCRSA eliminated the Type 12 Cannabis Transporter license type from MCRSA. Instead, cannabis cultivators, manufacturers and retailers (but not testing laboratories) are now allowed to

transport their own product, provided they have a separate distributor license. Independent cannabis distributors will likely pick up a larger portion of that business, too. In its place, MAUCRSA incorporated the Type 12 license for cannabis “Microbusinesses” from AUMA, which allows a combined non-medical cannabis business with up to 10,000 square feet of cultivation, and which can manufacture, distribute and sell their product on-site to retail customers, provided they meet all of the individual license requirements for all of the activities they choose to undertake.

MAUCRSA also made a fundamental change to the local control provisions. Under MCRSA, an applicant could not obtain a State license until they had a local permit. Under MAUCRSA, an applicant for a State license does not have to first obtain a local permit, but they cannot be in violation of any local ordinance or regulations. The State licensing agency shall contact the local jurisdiction to see whether the applicant has a permit or is in violation of local regulations, but if the local jurisdiction does not respond within 60 days, then the applicant will be presumed to be in compliance and the State license will be issued.

On September 16, 2017, Governor Brown signed AB 133, which makes a number of major and minor “clean up” changes to the State’s regulations, most notably regarding vertical integration. MAUCRSA authorizes a person to apply for and be issued more than one license only if the licensed premises are separate and distinct. With the passage of AB 133, a person or business may co-locate multiple license types on the same premises, allowing a cultivator to process, manufacture or distribute their own product from a single business location. This includes the allowance to cultivate, manufacture, distribute or sell cannabis for both medical and adult use from a single location. However, these allowances are still subject to local land use authority, so anyone seeking to operate two or more license types from a single location would be prohibited from doing so unless local regulations allow both within the same zone.

Most recently, on November 16th, the three State licensing agencies simultaneously issued emergency regulations to implement these many new laws. These emergency regulations were closely based upon draft regulations that had been released for review the previous Spring. Those draft regulations were withdrawn after the passage of SB 94, as they had been based upon the now-defunct MCRSA. The draft regulations made a number of interpretive changes to the regulatory framework defined by the various pieces of legislation. Most of these were small, but some are more significant.

Figure 11 (next page) lists the 30 different license types currently available from the State. Of these, 29 are available under either A (Adult Use) or M (Medical). Only the Type 8 Testing license does not distinguish between these categories. All told, there are 59 different licenses and variations available.

Figure 14:

State License Types Under MAUCRSA					
Type	Activity	Description	Details	Licensing Agency	Notes
1	Cultivation	Outdoor; Specialty, Small	Up to 5,000 sf, or 50 plants on non-contiguous plots	CDFA	A, B
1A	Cultivation	Indoor; Specialty, Small	501 sf - 5,000 sf	CDFA	A, B
1B	Cultivation	Mixed-Light; Specialty, Small	2,501 sf - 5,000 sf	CDFA	A, B, C
1C	Cultivation	Outdoor/indoor/mixed; Specialty Cottage, Small	Up to 25 plants outdoor; up to 2,500 sf mixed light; up to 500 sf indoor	CDFA	A, B, C
2	Cultivation	Outdoor; Small	5,001 sf - 10,000 sf	CDFA	A, B
2A	Cultivation	Indoor; Small	5,001 sf - 10,000 sf	CDFA	A, B
2B	Cultivation	Mixed Light, Small	5,001 sf - 10,000 sf	CDFA	A, B, C
3	Cultivation	Outdoor; Medium	10,001 sf - one acre	CDFA	A, B, D
3A	Cultivation	Indoor; Medium	10,001 sf - 22,000 sf	CDFA	A, B, D
3B	Cultivation	Mixed-Light; Medium	10,001 sf - 22,000 sf	CDFA	A, B, C, D
4	Cultivation	Nursery	Seeds, clones, immature plants only	CDFA	A, B
5	Cultivation	Outdoor; Large	Greater than 22,000 sf	CDFA	A, B, E
5A	Cultivation	Indoor; Large	Greater than 22,000 sf	CDFA	A, B, E
5B	Cultivation	Mixed-Light; Large	Greater than 22,000 sf	CDFA	A, B, C, E
	Cultivation	Processor	Trimming, drying or packaging of non-manufactured cannabis only	CDFA	A, B, F
6	Manufacturer 1	Extraction; Non-volatile	Non-volatile extraction only, infusion, packaging and labeling	MCSB	A, B
7	Manufacturer 2	Extraction; Volatile	Volatile or non-volatile extraction, infusion, packaging and labeling	MCSB	A, B
N	Manufacturer	Packaging and Labeling	No extraction allowed	MCSB	A, B, F
P	Manufacturer	Infusion for Edibles, Topicals	No extraction allowed	MCSB	A, B, F
8	Testing		Shall not hold any other license type	BCC	A
9	Retailer	Delivery only	No storefront allowed	BCC	A, B
10	Retailer	Retail sale and delivery		BCC	A, B, F
11	Distributor		Various categories based on size	BCC	A, B
12	Microbusiness	Cultivation, Manufacturer 1, Distributor and Retailer	< 10,000 sf of cultivation; must meet requirements for all license types	BCC	A, B
	Self-Distribution		Distribution of own cannabis or cannabis products only	BCC	A, B, F
	Event Organizer		Up to 10 cannabis events annually	BCC	A, B, F
CDFA	California Department of Food and Agriculture, CalCannabis Division				
MCSB	California Department of Public Health, Manufactured Cannabis Safety Branch				
BCC	Bureau of Cannabis Control				
A	All license types valid for 12 months and must be renewed annually				
B	All license types except Type 8 Testing must be designated either "A" (Adult Use) or "M" (Medical)				
C	Mixed-light cultivation licenses classified as either Tier 1 (6 watts/sf or less) or Tier 2 (6 watts/sf up to 25 watts/sf)				
D	A person shall be limited to 1 Medium license of any type until January 1, 2023				
E	No Type 5 licenses shall be issued before January 1, 2023				
F	Established by licensing agencies through rulemaking process				

The emergency regulations established a number of new license types, which fill in some gaps in the industry chain. CalCannabis established a separate Processor license for facilities which conduct only the drying, curing, trimming, grading, packaging or labeling of non-manufactured cannabis products. CalCannabis also established two tiers for all Mixed-Light cultivation sizes. Tier 1 applies to cultivators which use 6 watts per square foot of supplemental light or less, while Tier 2 applies to cultivators which use between 6 watts and 25 watts per square foot.

The Bureau of Cannabis Control established a new Type 9 license for Non-Storefront Retailers which conduct cannabis sales exclusively by delivery, as well as a Self-Distribution license for cultivators or manufacturers which wish to distribute only their own product. The Bureau also created a system for permitting cannabis events, where cannabis will be sold or consumed, and a license type for Event Organizers. Permits for cannabis events may only be issued to persons or businesses holding an Event Organizer license.

The Manufactured Cannabis Safety Branch created two additional manufacturing license types. The Type N license is for manufacturers that produce edible or topical products using infusion or other processes, but that do not conduct extractions. The Type P license is for manufacturers that only package or repack cannabis products or label or relabel the cannabis product container.

General Economic Impacts

Discussion of regulating and taxing the cannabis industry can too often overshadow the larger jobs and economic development issues that typically accompany efforts to attract new industry. Word that a new business or industry is looking to bring new jobs to a community is more commonly met with open arms and offers of tax incentives. The cannabis industry is perhaps completely unique in that the inherent jobs and economic development benefits are welcomed more grudgingly and met with the disincentive of special taxes.

As with any other industry, the cannabis industry does not exist in a vacuum. Those businesses that actually grow, process, manufacture, distribute and sell cannabis products support a wide variety of other businesses that may never touch the actual product itself. Cultivators support garden supply stores, green house manufacturers, irrigation suppliers, soil manufacturers, and a wide variety of contractors including building and construction, lighting and electrical, HVAC, permitting, and engineering. Manufacturers support many of these same businesses, plus specialized tooling and equipment manufacturers, and product suppliers for hardware, packaging, and labeling. All of these businesses support, and are supported by, a host of ancillary businesses such as bookkeepers, accountants, tax preparers, parcel services, marketing and advertising agencies, personnel services, attorneys, facilities maintenance, security services, and others.

The economic benefits are not limited to those in the cannabis industry, itself. Cultivators bring new money into the community by selling their products into a statewide market. Their profits and the salaries they pay move into the general local economy, supporting stores, restaurants, car dealerships, contractors, home sales and other businesses. In Humboldt County, a study done in 2011 found that at least \$415 million dollars in personal income was entering the local economy annually from the cannabis industry, roughly equal to one quarter of the county's entire \$1.6 billion economy.

While Humboldt is likely an outlier, research done by HdL for other clients suggests that other counties and cities see similar, if smaller, economic inputs from this industry, with some in the range of \$100 million dollars or more annually. As this industry adapts to a legal paradigm, the challenge for some counties will be mitigating and minimizing the economic loss as the black market slowly fades away.

Because of the emerging nature of this industry, it is currently populated primarily (but not solely) by small, independently-owned businesses. Numerous studies have demonstrated that locally-owned, independent businesses recirculate a far higher percentage of every dollar back into the local community than large, corporately-owned businesses do. The same economic development arguments that are used to support other independent, locally-owned businesses apply to this industry, too. The City should expect to see typical economic benefits from these new (or newly daylighted) businesses on par with other new businesses, separate from any tax revenue that may be generated.

Industry experts believe that California's current statewide production is five to eight times higher than the State's population consumes^{xv}, a figure derived from the SRIA done for CDFA's cannabis cultivation program. That assessment found that California's cannabis industry produces some 13.5 million pounds of cannabis per year, which would be enough to provide over half a pound of cannabis per year for every Californian 21 and over. However, the assessment also found that California's 4.5 million cannabis users only consume about 2.5 million pounds of cannabis per year. A separate study performed for the California Cannabis Industry Association put statewide consumption even lower, at 1.6 million pounds^{xvi}. The majority of the cannabis produced in California is presumably supplying other states that do not have legalized cannabis.

The Bureau of Cannabis Control projects that more than half of the adult use purchases currently in the black market will transition to the legal market to avoid the inconvenience, stigma and risks of buying unknown product through an unlicensed seller^{xvii}. Essentially, the easier, cheaper and more reliable it is for consumers to access quality cannabis legally, the less reason they will have to purchase it through the black market. That same study projects that 60% of those currently in the legal, medical cannabis market will shift to the adult use market, for the reasons noted above. The availability of legal adult use cannabis is also anticipated to produce a small 9.4% increase in consumer demand.

Given these figures, cities and counties should expect to see some increase in retail sales as these shifts occur in the market. More significantly, the existence of legally permitted cannabis retailers will allow a far greater portion of existing cannabis sales to be captured by legal (and tax-paying) retailers.

The shift from medical to adult use sales is not expected to change the overall volume of sales, only the category into which they fall. Once the legal, adult use market is properly functioning, it is anticipated to capture about 61.5% of the overall cannabis market in California. The legal medical cannabis market is projected to decline to just 9% of the overall market. The other 29.5% is expected to remain in the black market^{xviii}.

These numbers only apply to the 1.6 million to 2.5 million pounds of cannabis that is consumed in California, representing the potential size of the legal cannabis market. If 29.5% of the cannabis consumed in California continues to come from the black market, then the size of the market for legal cannabis must be adjusted downward accordingly. This would reduce the size of the legal market in California to between 1.13 million and 1.76 million pounds.

California has been issuing temporary licenses for commercial cannabis businesses since the beginning of the year. As of April 10th, CDFA's CalCannabis division has issued over 3,000 cultivation licenses, capable of producing over 6 million pounds of cannabis per year. That amount is over three times more cannabis than the State's legal buyers are anticipated to consume.

References

- ⁱ Duncan McEwan, et al (January 2017) *“Economic Impact Analysis of Medical Cannabis Cultivation Program Regulations”* California Department of Food and Agriculture
- ⁱⁱ Denver Relief Consulting, et al (2017) *“2017 California Cannabis Opportunity Report”*
<https://www.cacannabisreport.com/>
- ⁱⁱⁱ California Landscape Conservation Cooperative *“Decadal Summertime Fog & Coastal Low Cloud Dataset for North and Central Coastal California for 1999-2009”* <http://climate.calcommons.org/datasets/summertime-fog>
- ^{iv} Current Results Weather and Science Facts *“Average Temperatures for California's Ocean Beaches”*
<https://www.currentresults.com/Weather/California/average-temperatures-california-beaches.php#sf>
- ^v Rocket Farms *“About Us”* <http://www.rocketfarms.com/about>
- ^{vi} Michael Conlon (February 6, 2015) *“The History of the Colombian Flower Industry and Its Influence on the United States”* USDA Global Agricultural Information Network
- ^{vii} Chris Roberts (November 2016) *“The Great Cannabis Price Crash”* High Times
- ^{viii} Joseph Henchman (2016) *“Marijuana Legalization and Taxes: Lessons for Other States from Colorado and Washington”* the Tax Foundation
- ^{ix} *“Economic Costs and Benefits of Proposed Regulations for the Implementation of the Medical Cannabis Regulation and Safety Act (MCRSA)”* (February 23, 2017) University of California Agricultural Issues Center
- ^x Eschker, Erick (2015) *“Active Medical Marijuana Dispensaries in California, 2015”* Humboldt Institute for Interdisciplinary Marijuana Research
- ^{xi} CBS News (2018) *“17 stoner states: Where's marijuana use highest?”* <https://www.cbsnews.com/pictures/17-stoner-states-wheres-marijuana-use-highest/9/>
- ^{xii} Christopher Ingraham (April 20, 2017) *“How many Americans regularly use pot? The number is, errr, higher than you think”* Sacramento Bee <http://www.sacbee.com/news/nation-world/national/article145681414.html>
- ^{xiii} Alice Wallace (2017) *“The future of buying weed: California eyed as epicenter for delivery, e-commerce”*
<https://www.thecannabist.co/2017/09/14/marijuana-delivery-e-commerce-california-eaze/87562/> The Cannabist
- ^{xiv} Eli McVey, et al. (2017) *“Marijuana Business Factbook 2017”* Marijuana Business Daily
- ^{xv} Patrick McGreevy (July 26, 2017) *“California has too much pot, and growers won't be able to export the surplus”* Los Angeles Times <http://www.latimes.com/politics/essential/la-pol-ca-essential-politics-updates-california-producing-pot-surplus-1501101923-htmlstory.htm> /
- ^{xvi} Denver Relief Consulting, et al (2017) *“2017 California Cannabis Opportunity Report”*
<https://www.cacannabisreport.com/>
- ^{xvii} *“Economic Costs and Benefits of Proposed Regulations for the Implementation of the Medical Cannabis Regulation and Safety Act (MCRSA)”* (February 23, 2017) University of California Agricultural Issues Center
- ^{xviii} *“Economic Costs and Benefits of Proposed Regulations for the Implementation of the Medical Cannabis Regulation and Safety Act (MCRSA)”* (February 23, 2017) University of California Agricultural Issues Center