



October 22, 2015

Mrs. Christian Hood
Dr. Trevor Haynes
Four Twenty North Cannabis
via email

Re: Demand for Recreational Cannabis in Alaska

Dear Mrs. Christian Hood and Dr. Trevor Haynes:

In November 2014, Alaska passed ballot measure 2 legalizing possession of up to one ounce of cannabis for adults 21 and older. The state is currently developing a regulatory framework for retail sales, and recreational cannabis shops will likely open sometime in 2016. Four Twenty North Cannabis (Four Twenty North) retained the Marijuana Policy Group (MPG) to help quantify the number of potential recreational cannabis users in four market areas throughout the state. The market areas examined in this analysis include Anchorage, Fairbanks, Juneau and Wasilla. User estimates for these market areas include both Alaskan residents and non-Alaskan tourists.

Methodology

User Prevalence: The most recent and comprehensive data for Alaska cannabis use comes from the National Survey on Drug Use and Health (NSDUH). The NSDUH is a nationwide survey that collects state-level representative samples on a wide variety of substance abuse, addiction, and mental health issues. The survey is administered by the Substance Abuse and Mental Health Services Administration (SAMHSA) of the U.S. Department of Health and Human Services.

In order to obtain our specific prevalence dataset, the NSDUH offers their “restricted-use data analysis system” (R-DAS). This system provides access to the most detailed cross-tabulations of cannabis use frequency and age groups. The R-DAS data allowed MPG researchers to make distinctions between the over-21 user age group, which has access to the regulated retail market, and those under 21 whom do not have access to retail cannabis outlets. This data source also provides some information about the frequency of users’ cannabis consumption.

Using a combination of Alaska specific NSDUH survey data and use frequency metrics observed in Colorado, the MPG estimates that there are 80,284 residents who use cannabis at least once per month throughout the state of Alaska. A total of 125,033 residents have consumed cannabis

in the past year, including monthly users. We estimate that 628,489 residents are non-users, based upon data from the Alaska Department of Labor and Workforce Development.ⁱ

User Demand: A key driver for cannabis demand is the state’s user profile. Heavy users typically consume three times as much cannabis in a single day as do occasional users. A recent and important revelation is that heavy users account for most of a region’s demand, and that infrequent users have a very small impact upon demand. Marijuana Policy Group (2014), Kilmer et al. (2013),ⁱⁱ and Caulkins (2011)ⁱⁱⁱ are recent studies that highlight this effect and its importance for aggregate market size estimates.

Thus, a careful depiction of the Alaskan user profile is necessary to quantify market demand. MPG constructed a user profile by obtaining data on the Alaska population age 21 and over that used marijuana within the past month and within the past year from the NSDUH. Unfortunately for this study, the NSDUH restricts data regarding the frequency of Alaskan monthly users due to privacy reasons resulting from small sample sizes. In order to estimate this frequency, MPG applied a frequency distribution exhibited by Colorado residents.^{iv} This data was not restricted in the NSDUH data because of larger sample sizes in Colorado. Adjustments for state population growth and NSDUH survey respondent underreporting were also applied.^v This profile is shown in Figure 1.

Figure 1.
Alaska Cannabis Users Over 21 Years Old by Frequency of Use, 2016

Source:
NSDUH R-DAS; Alaska Department of Labor and Workforce Development;
MPG Estimates.

State of Alaska Use Frequency	Adjusted Population
Less than once per month	44,750
1-5 days per month	23,291
6-10 days per month	13,410
11-15 days per month	9,352
16-20 days per month	5,999
21-25 days per month	7,379
26-31 days per month	20,853
Yearly User Total	125,033
Monthly User Total	80,284

Distribution across Market Areas

The NSDUH data enabled MPG to estimate the total statewide use, but disclosure restrictions prevent this data source from being useful on a smaller geographic scale. In order to estimate users by market area, MPG used census tract data to allocate the users across the state. Census tracts are small geographic units used by the United States Census Bureau possessing demographic data useful for research purposes. MPG assumed that all state residents over the age of 21 are equally likely to be a cannabis user. Users calculated in Figure 1 are distributed across the census tracts proportionally according to population.

With assistance from Four Twenty North, MPG identified four market areas across the state. By overlaying these boundaries on the user population map, MPG was able to estimate the number of users who could reasonably be served by a retail cannabis shop located in the population center of each market area. Market areas and number of estimated cannabis users are shown on the following pages.

Figure 2.
Monthly Users by Market Area

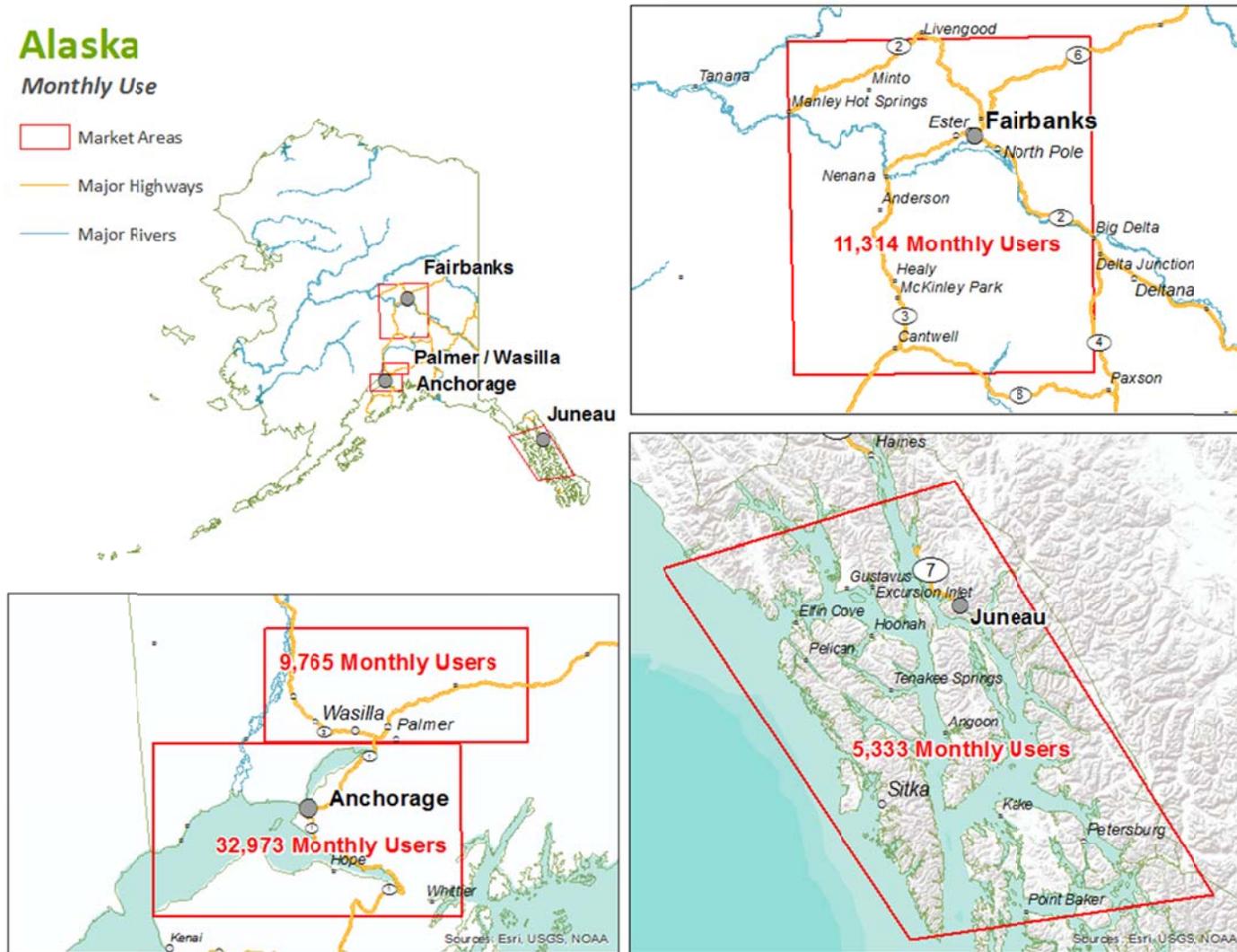
Alaska

Monthly Use

Market Areas

Major Highways

Major Rivers



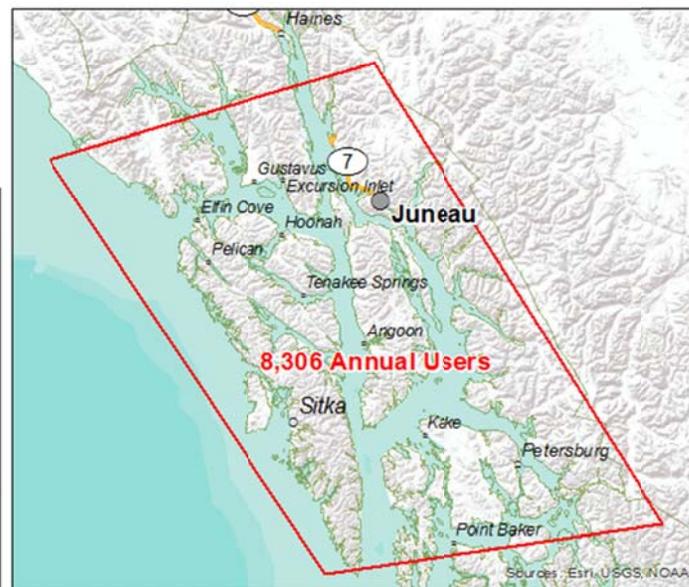
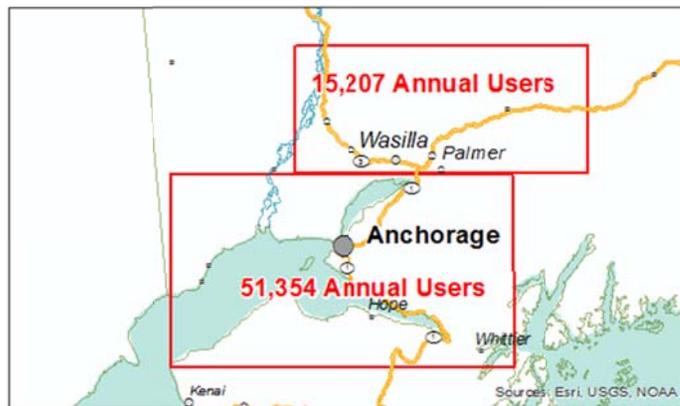
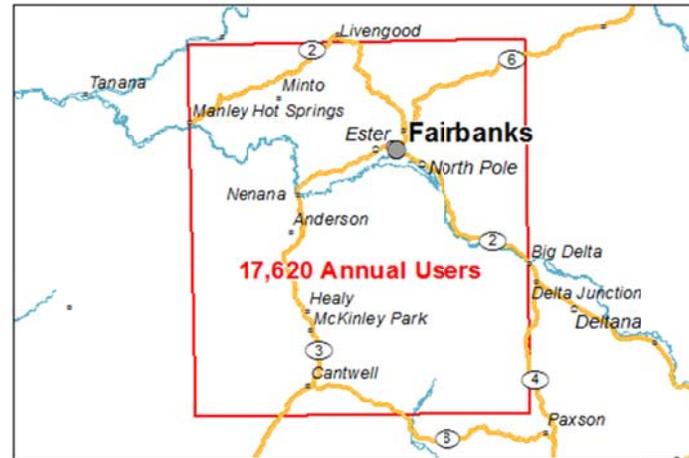
Source: BBC Research & Consulting, 2015

Figure 3.
Annual Users by Market Area

Alaska

Annual Use

- Market Areas
- Major Highways
- Major Rivers



Source: BBC Research & Consulting, 2015

As shown in the maps above, Anchorage has approximately 51,354 potential annual users and 32,973 monthly users, the Wasilla/Palmer market area has approximately 15,207 annual users and 9,765 monthly users, Fairbanks has approximately 17,620 annual users and 11,314 monthly users, and Juneau has approximately 8,306 annual users and 5,333 monthly users.

It is important to note that not all of the cannabis users calculated in this modeling process will purchase cannabis from a retail outlet. Many of these existing users could continue to use their existing cannabis supply source. The heaviest users, some of whom are medical users, are likely to remain with their current supplier rather than switch to a retail store, particularly in the short-term. In 2014, Colorado learned that conversion from existing suppliers has lagged behind expectations in the nascent market.

Tourism Demand

In addition to the demand for recreational cannabis from Alaskan residents calculated above, retail cannabis will also be available to non-resident tourists. While tourism is an important piece of Alaska’s economy, it will likely play only a small role in the demand for retail cannabis. This is primarily because tourists are only in the area for a short period of time. Additionally, the makeup of Alaskan tourists does not represent the highest user groups. For example, cruise visitors, which represent nearly 50 percent of total visitors, are typically older and have a lower cannabis participation rate than the average population. International visitors, particularly from Asia, which represent a large share of international tourists, are also less culturally accepting of cannabis than the average American and are less likely to purchase cannabis during their visit to Alaska. MPG accounted for these unique cannabis preferences of typical visitors in order to estimate the number of tourists who may purchase cannabis during their visit. Figure 4 below shows MPG’s estimates for user frequencies by visitor type.

Figure 4.
User Frequency by Visitor Type

Source:
2014 Colorado Market Demand Study, MPG and MPG 2015.

Visitor Type	Use Prevalence
Cruise	8%
Domestic	15%
International	8%
Other	15%
USA Average	15%

Cruise and international visitors are expected to be half as likely to use cannabis as average domestic visitors. Domestic visitors are expected to use cannabis at the same frequency as the average American (15 percent^{vi}).

These user frequencies are applied to total tourist estimates by market area in order to estimate the number of potential non-resident users. These estimates are shown in Figure 5 on the following page.

**Figure 5.
Tourists and Cannabis User
Estimates by Market Area**

Note: Visitor estimates calculated by distributing total Alaskan tourists across regions according to spending patterns.

Source:

Alaska Visitor Statistics Program VI, Interim Visitor Volume Reports Summer 2014 and winter 2013/2014, and BBC Research & Consulting.

	Fairbanks	Juneau	Anchorage	Wasilla/ Palmer
Total Visitors	431,100	519,300	729,900	81,100
Potential Users	56,600	47,800	79,000	8,800
Potential Users per Month	4,717	3,983	6,583	733

As shown in Figure 5 above, there are approximately 4,717 visitors per month who may purchase cannabis in Fairbanks, 3,983 in Juneau, 6,583 in Anchorage, and 733 in Wasilla/Palmer. These visitors will likely purchase cannabis only once or twice during their visit.

Summary

When Alaska begins issuing licenses for retail cannabis facilities next year, there will be a market opportunity for retailers to meet existing market demand. MPG estimates that approximately 80,284 Alaskan residents use cannabis at least monthly and an additional 44,750 residents use cannabis at least once a year.

These users are distributed across the state, with the largest market area in Anchorage. Anchorage has approximately 51,354 annual users and 32,973 monthly users. The Fairbanks market area is the next largest with 17,620 annual users and 11,314 monthly users. Wasilla/Palmer and Juneau market areas are the smallest with approximately 15,207 annual users and 9,765 monthly users in Wasilla and 8,306 annual users and 5,333 monthly users in Juneau.

Tourism will also contribute to cannabis demand within these market areas. Approximately 6,583 visitors per month may purchase cannabis in Anchorage, 4,717 in Fairbanks, 3,983 in Juneau, and 733 in Wasilla/Palmer. Due to the limited duration of the tourists' visit to Alaska, this is likely to represent only a small portion of total demand.

We hope this information proves useful as you begin the licensing process. Feel free to contact us if we can be of further assistance.

Sincerely,



Adam Orens
Managing Director

ⁱ <http://laborstats.alaska.gov/pop/estimates/data/TotalPopulationBCA.xls>

ⁱⁱ Kilmer, Beau, Jonathan P. Caulkins, Gregory Midgette, Linden Dahlkemper, Robert J. MacCoun, and Rosalie Liccardo Pacula. 2013. Before the Grand Opening: Measuring Washington State's Marijuana Market in the Last Year Before Legalized Commercial Sales. RAND Drug Policy Research Center.

ⁱⁱⁱ Kilmer, B., Jonathan Caulkins, Rosalie Pacula, & Peter Reuter 2011. Bringing perspective to illicit markets: Estimating the size of the U.S. marijuana market. *Drug and Alcohol Dependence*, 119, 153–160.

^{iv} The appropriate NSDUH R-DAS prevalence distribution for Alaska was unavailable due to privacy restrictions. Colorado's larger cohort by frequency populations were large enough to provide a useful benchmark.

^v See page 13-15 of the MPG Colorado report.

<https://www.colorado.gov/pacific/sites/default/files/Market%20Size%20and%20Demand%20Study.%20July%209,%202014%5B1%5D.pdf>

^{vi} See page 19 of MPG Colorado report.