

Marihuana in Michigan: *Understanding the Broad Implications*

Robert Elmouchi and Kaitlyn Leffert
DEQ, Air Quality Division
586-753-3736 / ElmouchiR@Michigan.gov
517-284-6751 / LeffertK@Michigan.gov

Marihuana Definition

- Marihuana is the leaves of the cannabis plant.
- The cannabis plant has both medical and recreational use.
- The main psychoactive part of cannabis is delta-9- tetrahydrocannabinol (THC).
- The main non- psychoactive part of cannabis is cannabidiol (CBD).
- Cannabis can be used by smoking, vaporizing, within food, or as an extract.

Contents

- MDEQ Workgroup
- Regulatory Overview
- Environmental Impacts
- Looking Forward

Marihuana Categories

Human interaction with the cannabis plant can be divided into three categories:

Cultivation

Processing

Consumption

Marihuana – Environmental Impacts

Marihuana cultivation and processing creates many environmental impacts.

DEQ Marihuana Workgroup

Given the national trend toward full legalization of marihuana, a DEQ workgroup was formed in 2017.

- Members:
 - Air Quality
 - Public Affairs and Outreach Division
 - Waste and Radiological Protection
 - Water Resources

Objectives:

- Summarize applicability of existing regulations governing marihuana cultivation and processing.
- Recommend inspection, compliance, and enforcement, policies regarding applicable regulations.
- Propose rules to protect the public and environment from adverse effects of marihuana cultivation and processing.
- Provide staff and superiors the information needed to make informed decisions.

Regulatory History – U.S.

PROHIBITION

- Before 1906 – prescribed by physicians.
- 1906 – Many s
- 1937 – Marihuana Tax Act

Proponent

Harry J. Anslinger, Commissioner, U.S. Treasury Department's Federal Bureau of Narcotics.

Young people are “*slaves to this narcotic, continuing addiction until they deteriorate mentally, become insane, turn to violent crime and murder.*”

- 1937 – Marihuana Tax Act Opposition
 - Opposed by American Medical Association
 - Tax on prescribing physicians and pharmacies.
 - AMA objected to the bill on the grounds that the bill had been prepared in secret without time to prepare opposition.
- 1937 – Marihuana Tax Act Opposition

New York Mayor Fiorello LaGuardia was a strong opponent of tax act.

LaGuardia Commission, 1939 to 1944.

 - LaGuardia Commission Report
 - Prepared by New York Academy of Medicine
 - Smoking marijuana does not lead to addiction.
 - Does not lead to morphine, heroin or cocaine addiction.
 - The publicity concerning the catastrophic effects of marijuana smoking in New York City is unfounded.

- 1937 – Marihuana Tax Act Repealed
 - Leary v. United States.
 - Ruled unconstitutional in 1969.
 - Violation of Fifth Amendment.
 - Repealed by Congress 1970
- 1970 – Controlled Substance Act
- Schedule I drug
- Drugs with no currently accepted medical use and a high potential for abuse.
- 2014 – Rohrabacher-Farr amendment
 - Prohibiting the Justice Department from spending funds to interfere with the implementation of state medical cannabis laws.

Regulatory History – U.S.

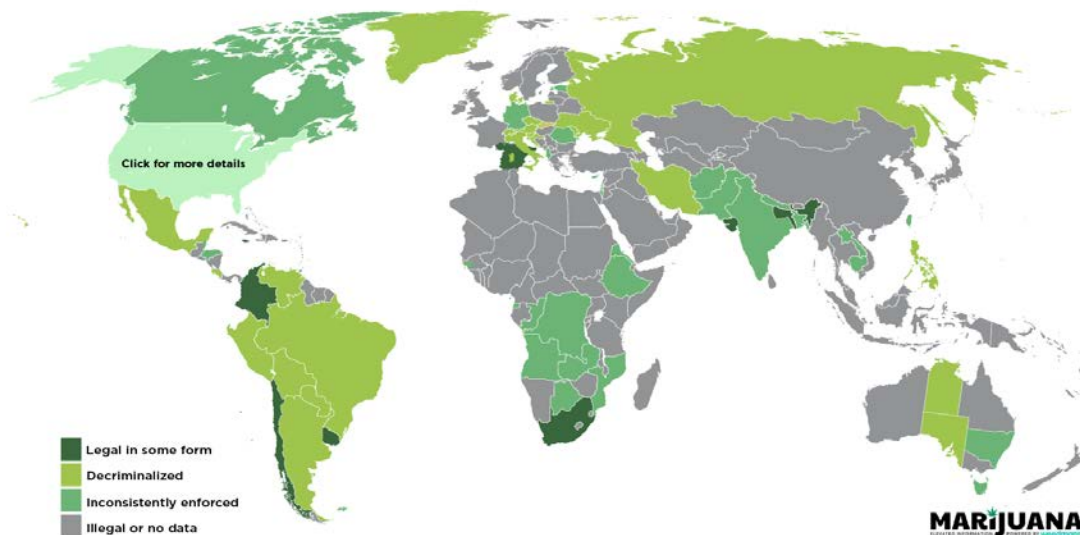
Michigan Medical Marihuana Act 2008

- “Modern medical research, including as found by the National Academy of Sciences' Institute of Medicine in a March 1999 report, has discovered beneficial uses for marihuana in treating or alleviating the pain, nausea, and other symptoms associated with a variety of debilitating medical conditions.”
- “...changing state law will have the practical effect of protecting from arrest the vast majority of seriously ill people who have a medical need to use marihuana.”

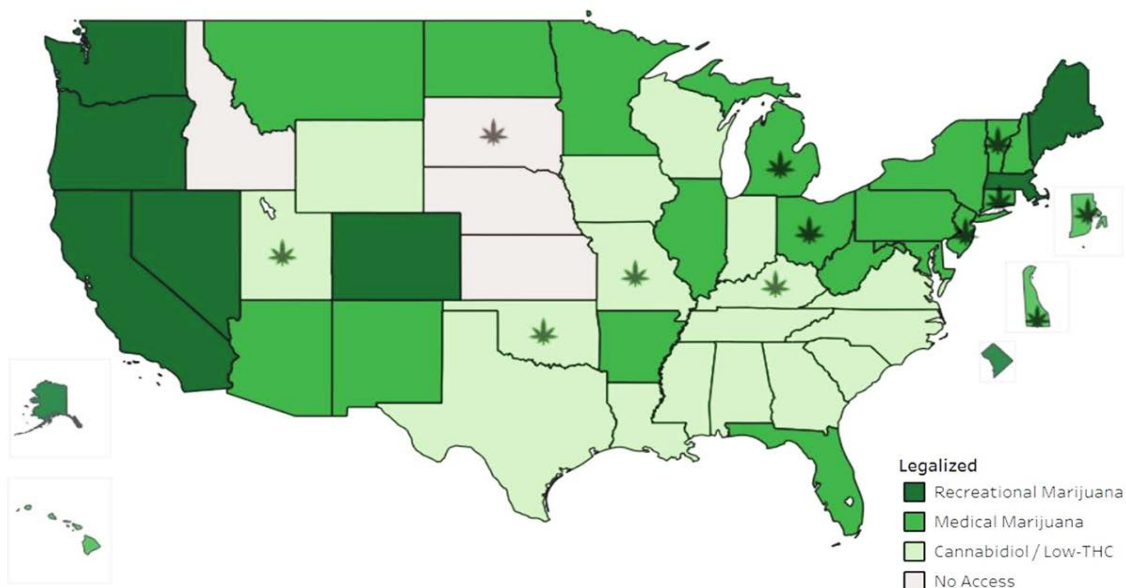
Where in the World is Marijuana Legal?

International Trends
United Nations Office
on Drugs and Crime
“An estimated
quarter of a billion
people, or around 5
per cent of the global
adult population,
used drugs at least
once in 2015.”

**Marihuana &
Hashish
International
Transport**
Marihuana moves
through all
continents



* 2018 Initiatives

**Michigan Medical Marijuana Act**

- Allows for medical use of marijuana
- Acknowledges medical benefits of marijuana
- Defines who can legally possess or sell marijuana products and in what quantity
- Establishes system for registering patients and caregivers, including registration fees
- Establishes enforcement authority, sets out fines and possible felonies for violating the law
- LARA Emergency Rules
- Medical Marijuana Facilities Licensing Act
 - Went to effect December 4, 2017
 - Recently expired (June 2018)
- Licensing requirements, including how to obtain a license, approval criteria, as well as tracking and monitoring systems

Michigan Marijuana Ballot Petitions

Abrogate Prohibition - (<http://abrogate.org/>)

Coalition to Regulate Marijuana Like Alcohol (<https://www.regulatemi.org/>)

- Approved by Michigan State Board of Canvassers– April 26, 2018.
- The state Legislature has 40 days (June 5, 2018) to adopt the initiative, which would stop it from appearing on the ballot.*

* Source:

<http://michiganradio.org/post/michigan-voters-will-decide-whether-legalize-recreational-marijuana>

- Legal for adults 21 or older
- Legalize industrial hemp
- Control commercial production and distribution, licenses, and taxes.
- Prevent arrest and penalty for personal possession and cultivation of marijuana by adults 21 years of age or older.
- Remove the commercial production and distribution of marijuana from the illicit market
- Prevent revenue generated from commerce in marijuana from going to criminal enterprises or gangs
- Prevent the distribution of marijuana to persons under 21 years of age
- Prevent the diversion of marijuana to illicit markets
- Ensure the safety of marijuana and marijuana-infused products
- Ensure security of marijuana establishments

What's Missing? Environmental Management!

Environmental Impacts?

Natural Resource Impacts

- Deforestation and Clear-cutting
- Erosion Control
- Trespass or Guerilla Grows
- Wildlife Impacts
- Land Impacts: California Example
- The Emerald Triangle is a region in Northern California known as the largest cannabis-producing region in the US
- Active cannabis cultivation since the 1960s

Land Impacts: California Example

- The Emerald Triangle is a region in Northern California known as the largest cannabis-producing region in the US
- Active cannabis cultivation since the 1960s

Waste and Disposal

Concerns:

- Securing or destroying
- active ingredients
- Secondary markets
- Compost considerations
- Waste and Disposal
- Must be made unrecognizable and unusable
- Solid wastes from growth, production, and processing can go to landfills or registered compost facilities

Water Quantity

- Water Use
- Estimate use of up to 6 gallons/plant/day
- Closed loop or water reuse systems can help mitigate water impacts
- Water Quality
- Siting
- Soil Erosion and Construction Storm Water
- Wetlands
- Wastewater
- Point Source Discharges
- Groundwater
- Storm Water
- Composting

Air Quality

- VOCs and Attainment Issues
- Permitting
- Air Use Permit to Install (PTI)
- Renewable Operating Permit (ROP)
- Odor
- Essential Oil Extraction
- Volatile Organic Compounds
- Outdoor grow emissions estimate for a marijuana cultivation facility: 43 tons/year
- Should be lower at indoor facilities
- Attainment Issues
- Small biogenic VOC emissions multiplied by the large potential increase in marijuana cultivation

facilities could lead to significant VOC emissions from

- marihuana facilities.
- Odors
- Potential for strong, pungent odors from cultivation and processing
- Control technologies:
- Activated Carbon Filtration
- Negative Ion Generation
- Ozone Generators
- Local odor ordinance.

Odor Control: City of Denver

City of Denver revised its odor control regulations to specify that marijuana cultivation and marijuana infused product facilities are required to submit odor control plans to the city.

Processing and Essential Oil Extraction

- Alcohol
- Butane
- Propane
- Hexane
- Benzene
- Steam
- Supercritical Carbon Dioxide

Many more questions than answers

- Are there extraction facilities in Michigan?
- Where are these facilities located?
- What chemicals are used?
- What are their annual emissions?
- Permit or exemption?
- Greenhouse Gasses:
- Carbon Footprint

Looking Forward and Next Steps

- Whitepaper development
- If legalized this fall:
 - Possible rulemaking or legislation needed to address environmental impacts
 - Department guidance or possible sample ordinances for cities or townships