Environmental Impact of Cannabis Liberalization in California

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Environmental Impacts

• Habitat Destruction (Illegal deforestation, road construction, grading)
• Biodiversity (Pesticide & Rodenticide use)
• Water and Soil Pollution (Nutrient loading in waterways, diesel spills)
• Damming/Dewatering of Streams
• Carbon Footprint (Indoor/mixed light)
• Garbage
“Green Rush” Google Earth Video

https://www.youtube.com/watch?v=Ewv5xel4uug
Figure 1. Estimated California Cannabis Production by Region, 2017

- North Coast: 5,521,000 lbs.
- Sacramento Valley: 1,031,000 lbs.
- Bay Area: 116,000 lbs.
- Central Coast: 1,113,000 lbs.
- South Coast: 352,000 lbs.
- Intermountain: 4,446,000 lbs.
- N. San Joaquin Valley: 420,000 lbs.
- S. San Joaquin Valley: 1,834,000 lbs.
- Southeast Interior: 727,000 lbs.

Source: Adapted from MacEwan et al., 2017
California Produced 13.5 million Pounds of Cannabis in 2016

California Production Sold in California Medical Market
5%
600,000 pounds

California Production Sold Out-of-State
81%
11 million pounds

California Production Sold in California Recreational Market
14%
1.9 million pounds

Source: ERA Economics
Cannabis Cultivation in CA (2018)

- Estimated 50,000 outdoor cannabis farms
- Thousands of indoor cannabis operations
- Less than 10% have made transition to the legal market
- +/- 5000 permits issued for cultivation, with majority holding multiple permits (2000 cultivators)
- Legalization has incentivized large-scale cultivation
Unintended Consequences of Drug Policy Regimes

Industry Emergence: 1970-1982

- Majority of cannabis coming to USA was low quality smuggled in from Mexico
- Cannabis takes center stage in Nixon’s “War on Drugs” (1971); DEA (1973)
- USA/Mexico Paraquat eradication program begins (1975).
- Cottage industry emerges in Northern California

Militarization: 1983 -1995

- 1983 Campaign Against Marijuana Planting (CAMP) begins in CA.
- Comprehensive Crime Control Act 1984 (Mandatory minimums and Asset Forfeiture)
- Increased military aerial surveillance
- Rise of Public/Tribal Lands Trespass Grows
- Surveillance also spurs on emergence of industrial indoor cannabis industry (diesel doping)
This generator could light your neighborhood 24/7.
Unintended Consequences of Drug Policy Regimes

The Grey Market 1996-2012

- Proposition 215 Compassionate Use Act (1996)
- Industrial cannabis agriculture normalized in CA, “Green Rush”
- Senate Bill 420 (2003) liberalizes medical cannabis regulations
- Bush’s DOJ attack on doctors, garden supply stores, & cannabis businesses
- Obama’s DOJ kills Mendocino 9.31 program (best management practices)
- Racialized Logic of Prohibition: Mexican DTOs and “Cartels” (National Drug Control Strategy 2012)
Greenhouse/Outdoor Grow Sites: Salmon Creek Watershed (Bauer et al. 2015)
Environmental Policy Dimensions of Cannabis Liberalization: 2013- Present

- Assembly Bill 266, 243, and Senate Bill 643 creates the Medical Cannabis Regulation and Safety Act (MCRSA 2015)
  - Cultivation cap limits size of farms to one acre.
  - Bans large-scale medical cannabis agriculture
  - Placed limits on the number of licenses one company could hold

- Prop 64 Adult Use of Marijuana Act (AUMA 2016)
  - Removed one-acre cultivation cap in 2023

- Senate Bill 94 Medicinal and Adult-Use Cannabis Regulation and Safety Act (MAUCRSA 2017)
  - permits companies to hold multiple licenses; eliminates cultivation cap
Post-Prohibition Environmental Challenges

- Local Bans
  - Cannabis businesses not permitted in 70% of California (Allen 2018)
  - Over 80% of local jurisdictions have either passed ordinances prohibiting cannabis delivery operations, or have failed to implement Prop 64

- Closed state market to majority of cultivators
  - Complex permit process, code compliance, lack of agency coordination
  - Taxation: growers taxed prior to harvest
  - Testing Fees: Increased up to 50% for Phase 3 Testing (Pena 2018)
Post-Prohibition Environmental Challenges

- Packaging Requirements: cannabis industry will produce well over one million units (not including vape cartridges) of single-use plastic packaging waste per year (Black 2018).

- Shortage of Testing Labs: statewide, there are 52 licensed facilities, with only 14 conducting Phase Three compliance testing (Pena 2018); “Pay to play” labs

- Carbon Footprint: Energy Use and Greenhouse Gas
  - 3% of state’s electricity (Mills 2012)
  - Over ½ current licenses are indoor/mixed light
Post-Prohibition Environmental Challenges

- “Canna-crats” and “big canna” lobby
  - Undermined environmental policy, contradicting the state’s Final Environmental Impact Report by removing the acreage cap on size of cultivation and permitting the stacking of licenses
  - Allowed Industry to dominate advisory boards (agency capture)
  - Southern California dispensary giants kill bill that would allow farmer to consumer direct sales and farmers markets. As a result, cannabis farmers markets are currently prohibited.
We currently have legalization with prohibition. Prohibitionist policies continue to exacerbate environmental problems. Federal remains a price support that stimulates both black market activity and environmentally harmful agricultural practices.

The environmental promise of “legalization” has failed to adequately address environmental impacts. Legalization has led to new environmental problems.

Policy makers continue to be more interested in revenue generation than minimizing the ecological footprint of the industry.

Policy makers need to address the negative incentives of regulation, and work towards creating positive incentive (tax breaks, small farmer subsidies)
Policy Reform Recommendations

- Reinstate the acreage cap and place moratorium on all Type 5 permits
- Broaden participation in policy making beyond the voices of “big canna”
- Incentivize ecologically sustainable agriculture
  - Progressive carbon tax to incentivize energy conservation for indoor cultivators
  - Mandate energy efficient production a condition of licensing
  - Tax credits that can be applied to cultivators who significantly reduce their ecological footprint.
Policy Reform Recommendations

- Require Recyclable Packaging

- Accurate accounting of the ecological footprint of the cannabis industry (ecological track and trace)
  - Measuring of Carbon Footprint
  - Waste Management Accounting and stronger waste management standards.
Thanks!

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