

**G**ROWING MARIJUANA REQUIRES prodigious amounts of water, regardless of whether it is grown inside or outdoors. In California, where growers have decades of experience cultivating, plants still require about six gallons of water per plant each day. That adds up to almost 300 million gallons of water for each square mile of marijuana grow each growing season. (1)

For reference, that is twice the amount of water wine grapes use, and the same amount of water consumed by almond orchards—a crop some experts say has aggravated water problems in the Western United States. (2)

Recent peer-reviewed research from fish and wildlife experts also indicates that marijuana "is likely to have lethal or sub-lethal effects on state-and-federally [protected] salmon and steelhead trout and to cause further decline of sensitive amphibian species," due to the amount of water it diverts from streams and rivers. In Northern California, marijuana crops consumed an average of about a quarter of the water flow in the selected watersheds. (3)

**M**OREOVER, THE BLACK market for marijuana in legalized states like Colorado has not abated (and may even have increased), meaning that abuse and degradation of public lands from illegal grows will continue. (4) For exam-

ple, in 2015, the Department of Justice announced a wave of prosecutions on federal land resulting in seizure of 20,000 marijuana plants and over 300 kilograms of dried marijuana. Suspects included Mexican nationals with ties drug trafficking organizations. (5)

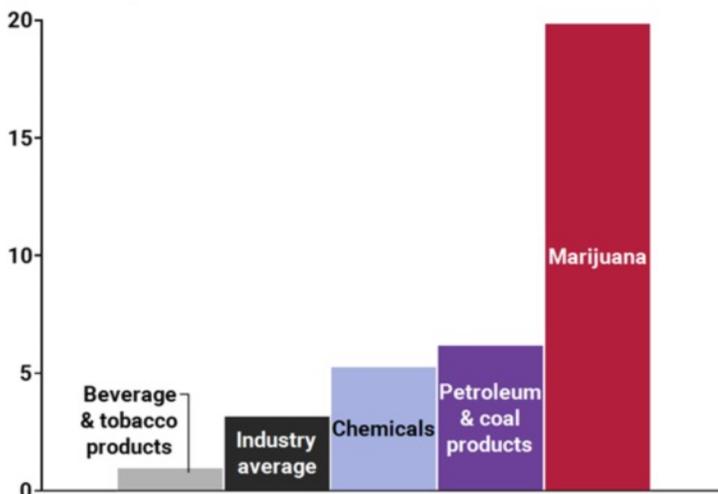
**P**OWER CONSUMPTION IS a similar story. In 2012—since which time, marijuana cultivation has expanded significantly—marijuana growing was responsible for one percent of the nation's entire electricity use. That is

**Marijuana cultivation already accounts for one percent of the United States' total electricity consumption, and is almost four times more energy-intensive than the petroleum and coal industries.**

six times the amount of power the entire U.S. pharmaceutical industry uses, and can be expected to rise if cultivation and consumption continues to escalate due to legalization laws. (6)

**T**HIS ENORMOUS ENERGY consumption derives from both the quantity of marijuana grown and the energy-intensiveness of the crop. It is almost four times more energy-intensive than the coal or petroleum industries, and six times as energy-intensive as the industry average. (7) In Colorado, indoor pot production in Colorado is responsible for two percent of the state's electrical load and 45 percent of all new electricity demand coming online, indicating that the burden will continue escalating unless the industry is curbed. (8)

Energy intensity (MJ/\$1,000 in shipment value)



Source: Mills, Evan. "The Carbon Footprint of Indoor Cannabis Production." *Energy Policy* 46. (2012): 58–67.

1. Carah et al.; High Time for Conservation: Adding the Environment to the Debate on Marijuana Liberalization. *BioScience* 2015; 65 (8): 822-829. doi: 10.1093/biosci/biv083.
2. *Id.*; Christopher, Ingraham. "Forget Almonds: Look at How Much Water California's Pot Growers Use." *Washington Post*. 26 June 2015; Hamblin, James. "The Dark Side of Almond Use." *The Atlantic*, 12 Aug. 2015.
3. Bauer et al. (2015) Impacts of Surface Water Diversions for Marijuana Cultivation on Aquatic Habitat in Four Northwestern California Watersheds. *PLoS ONE* 10(3):e0120016.doi:10.1371/journal.pone.0120016
4. "Special report, 'Clearing the haze:' Black market is thriving in Colorado." *Colorado Springs Gazette*, 20 Mar. 2015.
5. Department of Justice, U.S. Attorney's Office, State of Colorado. "Confronting wave of illicit marijuana cultivation, federal, state and local authorities discover and destroy major marijuana grows in locations across Colorado." 8 Oct. 2015.
6. Mills, Evan. "The Carbon Footprint of Indoor Cannabis Production." *Energy Policy* 46. (2012): 58–67.
7. *Id.*
8. Crombie, Noelle. "Task force looks at energy, water use related to marijuana production." *The Oregonian/OregonLive*. 27 June 2016.