

California Air Resources Board
1001 I Street
Sacramento, CA 95814

August 13, 2018

Re: Framework for incorporating health analysis into the climate change scoping plan

(online comment submitted to:

[https://www.arb.ca.gov/lispub/comm2/bcsubform.php?listname=health-7-13-18-
ws&comm_period=1](https://www.arb.ca.gov/lispub/comm2/bcsubform.php?listname=health-7-13-18-
ws&comm_period=1))

Dear Air Resources Board Members:

On behalf of the statewide coalition Californians for Pesticide Reform, we thank you for the opportunity to provide these brief comments to the *Framework for incorporating health analysis into the climate change scoping plan*. **We are writing to urge that CARB take into account the full health benefits of ecologically-managed natural and working lands, particularly with respect to agricultural lands.**

Slide 7 of Barbara Weller’s “Framework for the Health Analysis of the Scoping Plan” presentation shows interactions between the health drivers and programs of the Scoping Plan. Natural and Working Lands is shown to have a weak connection to the health drivers of Environmental Quality (Air Pollution, etc.) and to Diet & Food Systems. Yet the regenerative and agroecological practices we support, (essentially organic plus), function to protect agricultural communities from serious human health hazards.

California leads the U.S. in agricultural pesticide use, with approximately 200 million pounds of pesticide active ingredients applied each year.¹ A significant portion of agricultural pesticides used in California are the worst of the worst – “Bad Actor” pesticides capable of causing acute poisoning, cancer, birth defects, sterility, neurotoxicity, damage to the developing child and/or contamination of California groundwater. Among these are more than 40 million pounds of fumigants, which are amongst the most hazardous and GHG-producing pesticides.² Fumigants are carcinogenic and drift-prone, and are among the 47 pesticides classified as Toxic Air Contaminants (TACs) in California. These pesticides contribute to the development of ozone as well as PM 2.5, the dominant cause of criteria air pollutant health impacts, including lung and heart problems, that disproportionately affect environmental justice communities.

In addition to pesticides, synthetic fertilizers cause a host of health problems in local rural communities and are a significant source of greenhouse gas emissions. Several of the United States’ worst air quality districts are, in fact, in rural regions of California. According to a new study led by the University of California, Davis, agricultural fields contribute between 25 and 41 percent of the nitrogen oxide (NO_x) emissions in California, a key component of ozone.³ The

¹ California Dept. of Pesticide Regulation, Pesticide Use Reporting.
http://www.cdpr.ca.gov/docs/pur/pur16rep/lbsby_co_16.pdf

² California Dept. of Pesticide Regulation, Pesticide Use Reporting.
<http://www.cdpr.ca.gov/docs/pur/pur16rep/chmrpt16.pdf>

³ Almaraz, M., Bai, E., Wang C., Trousdell, J., Conley, S., Faloona, I., Houlton, B., “Agriculture is a major source of NO_x pollution in California,” *Science Advances*, Vol. 4, No. 1, January 2018.
<http://advances.sciencemag.org/content/4/1/eaao3477.full>

peer-reviewed study traces the emissions to fertilized soils in the Central Valley region. Excess nitrogen from synthetic fertilizers can pollute groundwater and air, impacts human health and the environment, and contributes to climate change. Eleven percent of nitrogen from crop land and livestock is lost as air pollution, contributing to the formation of ozone and ammonia, a component of particulate matter.⁴ As noted, well-established scientific evidence links ozone and particulate matter to poor respiratory and heart health. The over-use of fertilizer, in turn, can be linked, in part, to the fact that soils exposed to pesticides show less ability to fix nitrogen in the soil for the benefit of plants.⁵

Since 2009 a number of high-level international bodies and studies have confirmed that the current model of intensive industrial agriculture, based on high use of external inputs such as synthetic fertilizers and pesticides, fossil fuels and irrigation, must change if the global community is to feed future generations.⁶ The International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) initiated by the World Bank and six UN agencies and authored by more than 400 of the world's scientists and development experts, assessed evidence from the last 50 years of agriculture and evaluated prospects for the next 50 years. They found that the current energy-intensive industrial model of agriculture is unsustainable and exacerbates social inequality and that productivity per unit of land and per unit of energy use is much higher in small-scale and diversified farms than in large intensive farming systems.⁷

California's Central Valley's primary asset is the agricultural industry that claims to feed the nation and world; however, Valley counties are among the counties with the highest food insecurity in the nation, ranging from 33-41% food insecurity. Sixty-seven percent of adults are obese, while children suffer from chronic disease, hunger and poverty. Fresno County, for example, is the richest agricultural producing county in the nation and the nation's poorest congressional district, with poverty and hunger at about 40% according to the California Health Inventory Survey.⁸ An abundance of food leaves the region, local produce distribution systems are broken, rural corner stores sell predominantly cheap junk food and soda, and residents struggle routinely with lack of potable water and transportation access.

⁴ Kerlin, K. "California Nitrogen Assessment Shows the State of the Science on Nitrogen Use and Pollution California Paves the Way for Reconciling Agriculture and the Environment," *Food and Agriculture News*, August 9, 2016. <https://www.ucdavis.edu/news/first-state-level-nitrogen-assessment-shows-state-science-nitrogen-use-and-pollution>

⁵ Martinez-Toledo MV, Salmeron V, Rodelas B, Pozo C, Gonzalez-Lopez J. 1998. Effects of the fungicide Captan on some functional groups of soil microflora. *Applied Soil Ecology* 7: 245–255; doi: [https://doi.org/10.1016/S0929-1393\(97\)00026-7](https://doi.org/10.1016/S0929-1393(97)00026-7).

⁶ Report of the Special Rapporteur on the right to food. Human Rights Council, 34th Session. January 24, 2017. Agenda Item 3. A/HRC/34/48. <http://reliefweb.int/sites/reliefweb.int/files/resources/1701059.pdf>. The report debunks the claim that pesticides are essential for growing sufficient food for the planet, recommends development of a global treaty to govern the use of pesticides, and urges a move to sustainable practices including natural methods of suppressing pests and crop rotation, as well as incentivizing organically-produced food.

⁷ McIntyre BD, Herren HR, Wakhungu J, Watson RT (eds). 2009. *Agriculture at a Crossroads*. IAASTD International Assessment of Agricultural Knowledge, Science and Technology for Development Global Report. UNDP, FAO, UNEP, UNESCO, The World Bank, WHO, GEF. Island Press, Washington, D.C. http://www.fao.org/fileadmin/templates/est/Investment/Agriculture_at_a_Crossroads_Global_Report_IAASTD.pdf.

⁸ California Institute for Rural Studies. 2011. Working for a Fair and Healthy Food System in the Central Valley. <http://www.cirsinc.org/rural-california-report/entry/working-for-a-fair-and-healthy-food-system-in-the-central-valley>

For these reasons, we strongly support more ecological and smaller-scale farming, and believe the benefits of incentivizing and supporting this type of farming through the Scoping Plan should be taken into full consideration. The human health and environmental benefits of organic farming, for example, are well known. In addition to the fact that consumption of organic food can significantly reduce children's exposure, for example, to neurotoxic organophosphate pesticides⁹, organic and other regenerative agricultural practices provide a host of other benefits to human health and environmental health. The benefits of the elimination of use of all highly hazardous pesticides is obvious to the community health of agricultural communities. The benefits to pollinators, natural enemies of crop pests and diseases, and other wildlife have been documented for decades as well.

Organic production also brings clear economic benefits to the communities in which it is practiced. Organic farming is profitable. Census data show that organic farms in the United States on average have higher sales, higher production expenses, and higher operating profit than the average for all U.S. farms, creating real opportunity for rural economic livelihood. Organic farms bring community-wide economic benefits by providing expanding employment opportunities. The Organic Farming Research Foundation reported data from a five-state study indicating that organic farms hired an average of 61 year-round employees compared with 28 year-round employees hired on conventional farms. The study also found that organic farms hire more seasonal workers than do conventional farms.¹⁰ The following two examples illustrate this point.

For these reasons, we urge CARB to reconsider the full health benefits (through improved environmental quality, enhanced economic possibilities, and healthier food & diet opportunities) that properly managed natural and working lands can bring.

Sincerely,



Sarah Aird, Co-Director
Californians for Pesticide Reform

⁹ Curl C.L., Beresford S.A., Fenske R.A., Fitzpatrick A.L. Lu C., Nettleton J.A. and J.D. Kaufman. 2015. Estimating pesticide exposure from dietary intake and organic food choices: the Multi-Ethnic Study of Atherosclerosis (MESA). *Environ Health Perspect* 123:475–483; <http://dx.doi.org/10.1289/ehp.1408197>

¹⁰ Organic Farming Research Foundation. 2011. *Organic Farming for Health and Prosperity*.