November 21, 2016

Ms. Rajinder Sahota
Branch Chief
Cap-and-Trade Program
California Air Resources Board
1001 I Street
Sacramento, CA 95814

Submitted via ARB comments webpage:
https://www.arb.ca.gov/lispub/comm2/bcsubform.php?listname=sp2030scenarios-ws&comm_period=1

Re: Public Workshop on the 2030 Target Scoping Plan Update: Natural & Working Lands

Dear Ms. Sahota:

Please accept the following feedback from Environmental Defense Fund (EDF) in response to the public solicitation for comments on the Workshop on Natural and Working Lands on the 2030 Target Scoping Plan Update (hereafter "Workshop"), which took place in Sacramento, California on November 7, 2016.

EDF is pleased that the ARB is thoughtfully considering a variety of agricultural working lands practices that can help mitigate greenhouse gas emissions and/or sequester additional carbon. We appreciate the hard work that has gone into updating the Scoping Plan and the efforts to solicit input from agricultural stakeholders. EDF is committed to promoting science-based solutions for farmers, ranchers, and landowners to help the state address the impacts of climate change and bring greenhouse gas emissions to 40% below 1990 levels by 2030.

We have identified four critical areas where the Scoping Plan could be improved to further enable sustainable agriculture in California to thrive.

I. On the greenhouse gas benefits of agricultural practices:

We recommend expansion of ARB-supported research into long-term studies of the use of cover crops, compost application and conservation tillage (including no till). These practices have significant soil health benefits. We applaud their inclusion in and promotion through the

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Healthy Soils Initiative, which will allow growers to enhance the health and resilience of their soils. However, more research must be done to determine the quantifiable impact on greenhouse gas and carbon sequestration benefits, especially from implementing these practices with specialty crops. The current scientific literature contains conflicting studies that show how the carbon benefits of these practices fluctuate significantly over time and space. There is high uncertainty around the carbon sequestration benefits of these practices depending on soil type, crop and project location. Therefore, we would request that additional attention be paid to minimize uncertainty in order to guarantee conservative quantification of the environmental benefits attributed to these practices. By partnering with California university researchers, USDA's COMET-Farm and Climate Hubs, we can fast-track research on these important climate smart agricultural practices.

We acknowledge the vast amount of research that the ARB has supported to expand the community of knowledge on the science and economics of agricultural greenhouse gas mitigation and carbon sequestration, from the Greenhouse Gas Mitigation Opportunities in California Agriculture reports published in 2014 (Nicholas Institute for Environmental Policy Solutions) to field research conducted by the University of California at Davis (Burger, Horwath, 2016). In order to demonstrate that agricultural projects are meeting emissions reductions targets required for funding by the Greenhouse Gas Reduction Fund (GGRF), additional research is necessary to reduce uncertainty and truly understand dynamic agricultural ecosystems. The diversity of specialty crops in California makes this both a unique challenge and promising opportunity. Continuing investment in field and economic research will be critical for ARB to reach the goals set out for natural and working lands in the Scoping Plan Update.

II. On data and technology:

We encourage you to find ways to increase the connections between Silicon Valley and the Central and Salinas Valleys. These are two unique strengths of California and ARB should take advantage of these tremendous resources. In 2015 alone $4.6 billion of venture capital were invested in agricultural technology companies. While these companies can increase the data collected and managed by farmers, they still need to know what practices to implement to maximize yield while minimizing the agricultural environmental footprint which is why additional science is critical.

One way to bridge the valleys of California is to invest in the research and implementation of low-cost precision agriculture technologies that promote best practices for soil health, such as high-volume sensors for the real-time monitoring of soil carbon and nitrogen flux.

Another promising opportunity to leverage is determining and expanding the most effective ways for agricultural retailers and Resource Conservation Districts to collect and aggregate data collected by the increasing volume of precision agriculture technologies. This data can build the capacity of growers to efficiently manage their resources and make informed land management decisions that reduce greenhouse gas emissions and increase carbon sequestration.

III. On verification and aggregation costs:

Growers who generate carbon offset credits on their lands receive valuable income to support conservation practices. However, in most cases, the current costs and requirements of monitoring and verifying projects exceed the potential for profit. Standards and requirements, designed for sectors like forestry, do not work for agriculture. We see a huge potential for growers in California to be rewarded for their participation in greenhouse gas offset markets. If we want to reach that potential, it will be necessary for ARB to consider alternative means of verifying the implementation of practices in agriculture and by increasing the feasibility of large-scale aggregation.

IV. On protecting land:

We applaud you all for your efforts to preserve California working lands through the Sustainable Agricultural Lands Conservation Program, which received $37.4 million in the 2015-2016 fiscal year. We believe this was an important investment that will protect valuable and historic farmland and rangeland in the years to come and that this program will continue to provide an opportunity for GGRF investments. To support the measurement of the benefits of protecting grasslands, we recommend ARB look at the methodology developed by the Climate Action Reserve for quantifying the carbon sequestration benefits of grassland conservation. We recommend that ARB incorporate the Grassland Project Protocol into your assessment of the value of California working lands in climate change mitigation.

California agriculture is a $42.6 billion industry that generates more than $100 billion in related economic activity and, as such, presents an enormous opportunity to reduce emissions and create resilience in the face of climate change.

We thank ARB for the opportunity to provide comments. We look forward to continued collaboration with ARB and other stakeholders throughout the design and implementation of the Scoping Plan Update.

Sincerely,

Robert Parkhurst
Director, Agriculture Greenhouse Gas Markets
Environmental Defense Fund