January 13, 2017

Mary D. Nichols, Chair Secretary John Laird

California Air Resources Board California Natural Resources Agency

1001 I Street 1416 9th Street, Suite 1311

Sacramento, CA 95814 Sacramento, CA 95814

**RE: Natural and Working Lands Carbon Sequestration Modeling for Scoping Plan**

Dear Chairman Nichols and Secretary Laird,

I write on behalf of the California Climate and Agriculture Network (CalCAN), a coalition of the state’s leading sustainable and organic agriculture organizations.

We greatly appreciate the work of the Governor’s administration to advance natural and working (NWL) lands climate change strategies. This work will not only achieve significant greenhouse gas emissions reductions, but also enhance our air and water quality, improve wildlife habitat and more. Such efforts will create a vibrant California for all.

Please find below our comments on the Natural and Working Lands (NWL) Carbon Sequestration Modeling for the Scoping Plan. We also include a copy of our recent Scoping Plan comments, which address the modeling project.

Sincerely,

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Jeanne Merrill

Policy Director

1. **Reconcile LBL Farmland and Department of Conservation Farmland Data**

California has one the most robust Farmland Mapping and Monitoring Programs (FMMP) in the country. Since 1984, the state has gathered a variety of data sources to map and track trends in agricultural land conservation and loss. That effort uses modeling tools, aerial imagery, public review and field reconnaissance. Their work is highly regarded and has helped inform our land use policies in California for decades.

The FMPP finds that from 1984 to 2010, California has lost nearly 40,000 acres annually of irrigated cropland and an additional 14,000 acres annually of dry-land farming and grazing land[[1]](#footnote-1). These numbers are in stark contrast to those used in the Lawrence Berkeley Lab’s modeling effort, which finds California *gains* an average of 20,000 farmland acres annually.The lead project investigator of the LBL project acknowledges that their remote sensing data has inaccuracies. For example, vineyards in Napa and Sonoma were categorized as urban developed land. We can only assume that LBL has it wrong, given the depth and breadth of the FMMP data collection for over thirty years.

This is a significant data problem. If the NWL Modeling project is intended to inform Scoping Plan strategies for our farmland and rangeland, then we must have an accurate understanding of the status of that land. We support a Scoping Plan Strategy of reducing the loss of California farmland by 75 percent by 2030. However, the NWL Modeling effort cannot speak to the benefits of this target because the model does not have accurate data on the current status of our finite agricultural lands.

The NWL Modeling effort does acknowledge that the conversion of natural and working lands to urban development presents some of the biggest increases in carbon emissions (and conversely, farmland protection offers some of the best carbon savings). But to more accurately understand where we are as a state on farmland conservation as a climate change mitigation strategy, we need a model that provides an accurate picture of the status of farmland conservation and loss.

**Recommendation:** Before finalizing the LBL Model project, reconcile the LBL and DOC farmland data.

1. **More Ambitious Targets Needed for Management Practices**

The current NWL Modeling project reviews the carbon sequestration benefits of very low acreage scenarios for a minimal list of improved farmland and rangeland management. As we outlined in our Scoping Plan comments, included below, these acreage targets are insufficient, and will underestimate the GHG emissions reduction potential in agriculture. Moreover, by only looking at carbon sequestration and not the related nitrogen cycle and N2O emissions[[2]](#footnote-2), the model could further underestimate the impacts of the “healthy soils” strategies.

**Recommendation:** Increase the scenario modeling to 800,000 acres by 2030 as a low acreage management strategy. Include a robust set of practices for cropland and rangeland management, including all relevant practices on the USDA Climate Change Building Blocks List[[3]](#footnote-3). Include in the model the agricultural management practices’ impacts on the nitrogen cycle and related nitrous oxide emissions.

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December 16, 2016

Mary D. Nichols, Chair

California Air Resources Board

Air Resources Board

1001 I Street

Sacramento, CA 95814

**Re: Discussion Draft of the 2030 Target Scoping Plan Update**

Dear Chairman Nichols,

I write on behalf of the California Climate and Agriculture Network (CalCAN), a coalition of the state’s leading sustainable and organic agriculture organizations. California agriculture has a great diversity of climate change solutions to offer, as highlighted in the Scoping Plan Discussion Draft, and discussed below.

Many of these climate solutions not only reduce potent greenhouse gas (GHG) emissions and increase carbon sequestration, but also make our farms and ranches more resilient to increasing weather extremes brought on by rising temperatures. We cannot achieve a climate resilient and smart agriculture without bold goals and actions. We must also provide the resources necessary to achieve those goals: research, education, technical assistance and financial incentives to make climate change mitigation and adaptation accessible for our 76,000 farms and ranches.

The Discussion Draft highlights the urgent need for action, but offers a tempered vision for agricultural solutions to climate change—one that we do not think will meet the Governor’s call for bold climate change actions or adequately meet the state’s ambitious, but necessary GHG reduction goals. Below we suggest an alternative vision that is ambitious, practical and necessary for California to remain a leader in agricultural production and in climate change action.

Sincerely,

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Jeanne Merrill

Policy Director

1. **Increase cropland and rangeland management goals (page 64).**

The Draft Discussion significantly advances our collective thinking about the role of natural and working lands (NWL) to achieve the state’s climate change goals. In the eight years since the original Scoping Plan was conceived, we have learned much about the importance of NWL in storing carbon in soils and woody biomass, the impact of land use changes on greenhouse gas emissions, and land management strategies that can reduce potent greenhouse gases. Additionally, the new focus on NWL strategies presents the important opportunity to achieve multiple benefits of cleaner air, cleaner water and improved wildlife habitat – all critical for climate change adaptation and improved public health outcomes.

Given that, we were surprised by the very low acreage goals put forward in the Discussion Draft (page 64, Table II-2). For example: the total cropland acreage goal by 2030 would only reach 140,000 acres, or less than 2 percent of irrigated cropland in the state. The goals do not fit the opportunity for NWL climate change mitigation and could have the unintended consequence of limiting NWL strategies implementation by unnecessarily discounting their impact. In this week’s public workshop on the NWL carbon sequestration modeling methods being done by Lawrence Berkeley National Labs, the preliminary modeling results clearly suggest that much higher acreage targets on croplands and grasslands/rangelands are needed in order to reap the carbon benefits of improved management and conservation on these landscapes[[4]](#footnote-4). Bolder goals, based on practical considerations, are needed.

California has roughly 8 million acres in irrigated cropland[[5]](#footnote-5). In the most recent round of federal farm bill conservation program funding, the U.S. Department of Agriculture’s Natural Resource Conservation Service (NRCS) funded “soil health” practices on 80,000 acres in California. These practices include many of the practices under consideration for CDFA’s Healthy Soils Program because of their ability to increase carbon sequestration in soils and woody biomass and reduce GHG emissions overall.

Any state goal on improved carbon sequestration in agriculture through on-farm management certainly should not be below what NRCS is able to achieve through their farm bill conservation programs, but rather the state goal should be additional.

We suggest for a *low management target* that the state consider adding 57,000 acres/year to the existing NRCS acres to reach an additional 10 percent of irrigated cropland acres by 2030 (or 800,000 acres by 2030). This is based on what the state may be able to offer in terms of financial incentives and technical support for healthy soils practices. If, for example, CDFA offered farmers $36/acre[[6]](#footnote-6) for healthy soils practices, reaching 57,000 acres/year would be a little over $2 million/year – an amount well within the funding levels that have been proposed so far for the Healthy Soils Program. It also allows for stepping up state financial investment for these strategies should we see a cut to farm bill conservation funding under the new federal administration. We suggest a similar 10 percent by 2030 *low management goal* for rangeland management strategies.

Having 800,000 irrigated cropland acres enrolled in the Healthy Soils Program by 2030 is an achievable goal, based on past NRCS work, and likely should only be considered a low management goal. A higher management goal should also be considered, as suggested by our colleagues at the Carbon Cycle Institute.

We ask that the Lawrence Berkeley National Lab modeling project including modeling of a more ambitious, but still practical goal(s) for expanding healthy soils practices in cropland and rangeland. The modeling efforts are important to understanding if the goals set forth get us to where we need to be to reduce greenhouse gas emissions and achieve the multiple benefits of these practices.

We must do better than 10,000 acres/year. As such, California farmers and ranchers are already demonstrating to us, through NRCS programs, that they can and want to do better.

1. **Farmland conservation goal should be 75 percent by 2030.**

California loses an average of 50,000 acres of farmland every year[[7]](#footnote-7). As highlighted in the Discussion Draft, the conversion of agricultural land to sprawl and rural ranchette development significantly increases greenhouse gas emissions. The carbon sequestration potential of the land is also lost. The Discussion Draft proposes a cut in farmland conversion rates to 50 to 75 percent of current farmland losses. We strongly urge the administration to adopt a goal of 75 percent reduction in farmland loss by 2030. The 50 percent cut to 25,000 acres/year, on average, would allow the unnecessary and harmful loss of 350,000 acres of farmland by 2030. Bolder goals and bolder actions are needed.

1. **An agriculture industry chapter in the Scoping Plan is needed.**

Agriculture is unique in the multiple ways that it can reduce greenhouse gas emissions and increase carbon sequestration. However, the diversity of strategies and a coherent vision for agricultural solutions to climate change are lost in the current Discussion Draft by not having a distinct agricultural sector chapter or sub-chapter.

Agriculture produces renewable energy (solar, wind, bioenergy), avoids land-use related urban emissions through land conservation, can reduce potent greenhouse gas emissions (e.g. methane, nitrous oxide) through livestock and cropland management, recycles waste products (e.g. through composting, soil incorporation, etc.), and can save water and energy resulting in reduced greenhouse gas emissions. In agriculture these management choices are often interrelated. For example, the decision to move toward more efficient irrigation systems may also impact soil management decisions, as improved soil organic matter can increase soil water holding capacity and reduce irrigation needs. But these interconnections are lost in the current framing of the Discussion Draft.

Without a focused chapter on all agricultural climate change issues, we also lose the ability to have clear targets for some ag-climate change opportunities. For example, the Scoping Plan should include a goal of increased on-farm renewable energy generation and forward strategies that are specific to agricultural renewable energy issues, which are different than those strategies relevant to residential solar, for example. But these unique on-farm renewable energy issues are lost within the larger discussion of renewable energy issues in the Discussion Draft.

We appreciate all the work that has gone into the Discussion Draft to help inform a complex set of considerations as California moves forward on necessary climate change action. We know from our work with farmers and ranchers, university researchers and other agricultural professionals that California agriculture is already contributing significantly to our climate change solutions. Now is the time for bold actions that keep our food and farming systems healthy and vibrant in the face of a changing climate.

1. See: http://www.conservation.ca.gov/dlrp/fmmp/trends/Pages/FastFacts.aspx [↑](#footnote-ref-1)
2. We would welcome an opportunity for a discussion of this issue with agency staff and the modeling PI. For more see: http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0131888 [↑](#footnote-ref-2)
3. See: <https://www.usda.gov/wps/portal/usda/usdahome?contentidonly=true&contentid=climate-smart.html> [↑](#footnote-ref-3)
4. See workshop presentation by Alan V. Di Vittorio, slide 25: “Substantially larger Cropland management area may have potential for carbon benefits” and “Grassland management has little effect at 10,000 acres/yr – 10x this area gives 3.4x the annual grassland C retention.” Online at: <https://www.arb.ca.gov/cc/scopingplan/meetings/121416/121416presentation_carbon_sequestration_modeling.pdf> [↑](#footnote-ref-4)
5. See: https://www.agcensus.usda.gov/Publications/2012/Full\_Report/Volume\_1,\_Chapter\_1\_State\_Level/California/st06\_1\_001\_001.pdf [↑](#footnote-ref-5)
6. This is double the national acreage payment under the NRCS’ Conservation Stewardship Program, which funds on-farm conservation management (soil, wildlife, water, etc.). Many in the agricultural community view the $18/acre payment in California as too low given high production and land costs here compared to other parts of the country. We suggest a doubling of the incentive payment to better reach California producers. For the average farm in the state of 330 acres, such an incentive for healthy soils practices would mean a contract of nearly $12,000, a significant payment to help offset any real or perceived risks associated with new practices. We strongly suggest that multi-year funding for farms and ranches enrolling in the Healthy Soils Program is needed to address the risks associated in the first years of farm and ranch management changes. [↑](#footnote-ref-6)
7. See the Farmland Mapping and Monitoring Program trend data: http://www.conservation.ca.gov/dlrp/fmmp/trends/Pages/FastFacts.aspx [↑](#footnote-ref-7)