Carbon Cycle Institute

October 30, 2017

Mary Nichols, Chair
Air Resources Board
1001 I Street
Sacramento, CA

John Laird, Secretary
Natural Resources Agency
1416 9th Street, #1311
Sacramento, CA

Secretary Karen Ross
California Department of Food Agriculture
1220 N Street
Sacramento, CA 95814

Re: Comments and Framing Questions – Natural and Working Lands Climate Change Implementation Plan and CALAND Model Development

On behalf of the **Carbon Cycle Institute (CCI)**, we are writing to offer recommendations and scoping questions to Version 2 of the CALAND Model and the Natural and Working Lands (NWL) DRAFT Implementation Plan. We deeply appreciate the work and diligence of the staff at ARB, CNRA, and CDFA to shape and refine the NWL strategy under the AB32 Scoping Plan. And, we look forward to working closely with you to develop the tools and strategies for implementing programs and projects that **protect** existing carbon sinks and **enhance** the soils carbon pools in California.

The Carbon Cycle Institute's mission is to stop and reverse climate change by advancing science-verified solutions that remove atmospheric carbon while promoting environmental stewardship, social equity and economic sustainability. To that end, we support and develop projects that promote climate-beneficial management practices on working lands throughout California, work to build the technical capacity of land managers and producers to plan and implement impactful projects that reduce GHGs, protect working landscapes, and enhance carbon sequestration carbon in the lands base, and are heavily engaged in gathering and synthesizing scientific data on the important role these practices can play in sequestering carbon from the atmosphere.

Currently, we are working in over 20 counties with farmers, ranchers, and land managers to plan and implement on-farm conservation measures that improve soil health, sequester carbon, and improve resilience to climate change and drought – the very goal and practices supported by the Healthy Soils Initiative and the NWL Implementation Plan. With this on-the-ground experience, we offer the recommendations below. Under separate cover, CCI staff person, Dr. Pelayo Alvarez (with Dr. Jeff Creque as an alternate), has submitted an application to serve on the CALAND Technical Committee.

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Sincerely,

Pelayo Alvarez, Director of Outreach and Partnerships

Jeff Creque, Director of Rangeland and Agroecosystem Management

Torri Estrada, Executive Director

Natural and Working Lands:
Climate Change Implementation Plan and CALAND Model Development

Summary of Recommendations

- It is important, with respect to implementation and supporting on the ground projects, that the Model be compatible and/or integrated with existing tools (including those that are model-based) for GHG quantification of agricultural and working lands conservation practices. This would include but not be limited to: USDA (COMET-Planner); effects of land use changes (USGS LUCAS model), and existing strategies (e.g. The Nature Conservancy's jurisdictional accounting tool in Sonoma and Merced), and CCI's carbon farm planning framework. Climate Commons (http://climate.calcommons.org/Climate Commons) managed by the California Landscape Conservation Cooperative is a good source of data and projects.

- We highly recommend that this effort make incorporating data generated by the 4th climate assessment projects a high priority, including the soil carbon project being led by US Geological Survey under the leadership of Dr. Lorraine Flint.

- The current list of practices (and interventions) should be expanded to include all practices under COMET-Planner and others that have been quantified and published in peer-reviewed literature, especially those practices in the Healthy Soils Program. CCI and its partners can help provide relevant data required by the CALAND team. On a related note, can the CALAND team explain how the sixteen (16) practices currently under consideration were chosen, including the criteria, research threshold requirements, and if adoption, feasibility, and cost-benefit research was considered? This would help us analyze and recommend other practices that should be included in the Model.

- In Version 3 of CALAND, could you provide citations for all data sources utilized to justify negative C accumulation values for grasslands, oak savanna and oak woodlands.

- We would recommend the following State[1] programs and policies be added to the Model: i) implementation goals and targets of the Natural Resource and Solid Waste Diversion investment category of the Second Investment Plan for Cap and Trade Auction Proceeds; ii) goals, targets and strategies for the Carbon-Rich Healthy Soils program by CDFA, in collaboration with DoC, NRA, and CalRecycle; iii) the goals and projects supported by the Sustainable Agriculture Lands Conservation Program under the Smart Growth Council; iv) the State Coastal Conservancy's Climate Ready Program; v) the Department of Water Resources' Proposition 1 Agricultural Water Use Efficiency Program; vi) NRCS-CA's Environmental Quality Incentives Program.

[1] We would suggest that there are important federal, regional, county and local programs and policies, including those supported by the private sector and the agricultural supply chain, that play a key role in the State reaching its goals and objectives for protecting and restoring carbon pools, especially for working lands. CCI and its partners can provide information on these efforts and data on the range and types of on-farm conservation practices employed.

- CCI is unable at this time to effectively provide feedback and suggestions for setting the goal of 15-20 million metric tons from the NWL sector by 2030 without further information about how those reductions would be achieved, in what natural and agricultural systems, and the assumptions behind them. CCI has shared our recommendations for a carbon sequestration goal/target through 2030 for working lands with CDFA and ARB staff; we would welcome the opportunity to review them with the CALAND team and ARB staff at any time.

- Overall, any model developed for the working lands sector to create forecasts/scenarios for NWL will need to integrate on-the-ground practice adoption and implementation data, including peer-review and applied research from past and current projects actively implementing on-farm conservation practices.

Points of Clarification

- What is an observation-based model? It would be helpful to have a clear description of the intended use of the model and the underlying assumptions of the model in one document, along with a summary of the key gaps in data and knowledge.

- Can the team describe how the ability of the model to make accurate, defensible projections will be validated?

- Please clarify why black carbon is considered a GHG gas.

- Please provide more clarity and description of how initial soil carbon density in different systems is calculated. It seems like a very limited number of data sources/articles are being used.

- Please explain why ownership data is relevant in developing land categories for the Model.