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September 1, 2015

Shelby Livingston
Climate Investments Branch Chief
California Air Resources Board
1001 I Street
Sacramento, CA 95812

Re: Natural and Working Lands Coalition Comments on Draft Concept Paper for the Second Investment Plan

Dear Ms. Livingston,

On behalf of the Natural and Working Lands Coalition (NWLC), we are pleased to provide our comments on the draft ***Concept Paper for the Cap-and-Trade Auction Proceeds Second Investment Plan*** ("Concept Paper"). The NWLC seeks to ensure that natural and working landscapes are part of California's climate solution. Our groups include Audubon California, California Climate and Agriculture Network, California ReLeaf, Defenders of Wildlife, The Nature Conservancy, Pacific Forest Trust, and the Trust for Public Land.

California's natural and working lands are one of the largest and most cost-effective solutions to curbing greenhouse gas emissions (GHGs) and supporting millions of jobs. These landscapes are the state's only asset that actually removes greenhouse gases from the atmosphere, locking up carbon in trees, soils, and vegetation.

Improved management and conservation of our forests, wetlands, farms, rangelands, local parks, green alleys and urban forests pay huge dividends in other ways, including cleaner water, cleaner air, healthier and more productive farmland, and expanded green spaces for urban and underserved communities. These landscapes define California, covering over 70 million acres – nearly three-quarters of the state's landmass. They are a vital part of reaching our climate goals.

The Concept Paper includes a valuable set of themes and a framework that sets the stage for powerful action in these sectors. By recognizing that investments in our natural and working lands now can continue to yield benefits long into the future, the Investment Plan can lay the groundwork for truly transformative programs.

Below are our Coalition's general principles for the Second Cap-and-Trade Auction Proceeds Investment Plan, followed by some specific recommendations.

General Principles:

I. *Dedicate a greater proportion of auction proceeds to natural and working lands sectors.*

In his Executive Order B-30-15, Governor Brown included natural and working lands as one of the five 'pillars' for meeting the state's GHG reduction goals, stating that we should "[manage] farm and rangelands, forests and wetlands so they can store carbon".

Consistent with the Governor's goals, the Concept Paper repeatedly calls out the GHG reduction value of actions to protect and enhance our natural and working landscapes, including through land easements and improved management practices. Given the huge potential of these sectors to reduce emissions and sequester carbon, the proportion of auction proceeds dedicated to these actions should be much greater.

As stated above, these sectors are unique in that they can actively remove GHGs from the atmosphere in addition to reducing emissions. For example, conifer forests generally hold between 290 to 735 tons of GHG per acre, which increases by an average of 2.4% each year as trees grow. Enhancing soil health on farms and rangelands can cut GHGs by 1.2 tons per acre per year.[1] One hundred mature trees in an urban forest can reduce GHG emissions by five tons per year. The full sequestration potential of these sectors should be properly valued as part of the state's cap-and-trade investment decisions.

II. *Advance a systems approach to GHG investments in natural and working lands.*

The Concept Paper lays an excellent framework that takes a "systems approach" to maximize GHG reductions as well as co-benefits. We congratulate CARB on this valuable framing, and hope that it is pursued effectively as investments are made. This principle is particularly relevant in the natural and working lands sectors. Agencies should give additional consideration to projects that demonstrate a strategic, systems-oriented approach to achieving emission reductions. Projects that take a systems approach have the potential to achieve transformative change as well as multiple co-benefits and resilience.

[1] De Gryze, S., R. Catala-Luque, R.E. Howitt, and J. Six. 2009. Assessment of Greenhouse Gas Mitigation in California Agricultural Soils. PIER Final Project Report, January 2009. CEC–500–2008–039.

Particularly in the natural and working lands sectors, the actions taken should recognize the interplay between the various components of biological/ecological systems. It is important to recognize that components of natural systems interact with each other in complex ways, and that the overall landscape is healthier and more resilient when the landscape is viewed as an integrated system. Forests, mountain meadows, and streams are distinct types of habitat, and regulated under different authorities, but they are interdependent. On farms and ranches, holistic management planning approaches, including organic agriculture systems, are more effective at mitigating climate change than single climate-friendly agricultural practices. In the wetland and watershed sector, horizontal wetland levees, or expanded marshlands in front of manmade levees, have demonstrated a significant ability to nurture a healthy ecosystem that supports and provides resiliency to diverse wildlife as sea level rises.

Finally, as noted in the state's *Safeguarding California Plan* and the Governor's Executive Order B-30-15 investments in natural lands provide our greatest opportunity to help prepare for climate changes. Incorporating the expertise of wildlife agencies and building on existing plans to protect, connect, and restore important habitat areas will allow GGRF investments to help safeguard our threatened fish and wildlife populations. Fostering healthy soils and implementing water-saving practices will build resiliency to drought and floods, providing a buffer for farms, ranches, and the communities that depend upon them. Wetland levee systems provide communities with flood protection from sea level rise and storm surge while also storing and filtering reliable water supplies. And investments in urban forestry and related green infrastructure will contribute to building climate-resilient communities by capturing stormwater and reducing median temperatures through energy conservation and heat island mitigation.

III. *Invest in plans and strategies that take an integrated approach to GHG reductions and public benefits.*

We appreciate that the Concept Paper highlights the opportunities of investing in "integrated" strategies to reduce GHG emissions. From a natural and working lands perspective, integration across sectors can optimize not only GHG reductions, but many other critical public and environmental benefits, which can advance cost-effective and strategic investments.

As the Concept Proposal notes, "Investing in multiple project types to cut greenhouse gases in one geographic area would allow the State to emphasize the synergistic effects that exist between many of the strategies." By investing in integrated local government (or jurisdictional) plans and actions to reduce GHG emissions, the state can enhance the effectiveness of GHG investments by catalyzing reductions in multiple sectors. The conservation of natural and working lands results in direct GHG reductions through avoided emissions and carbon sequestration. These activities can also help reduce GHG emissions in other sectors (indirect reductions), such as transportation and energy efficiency. For instance, the conservation of non-urban lands can help

constrain urban growth patterns, thereby protecting the carbon sequestration function of the land and also constraining urban emissions related to transportation. Likewise, urban forestry and parks, green alleys and school yards, and other green infrastructure projects can, among other things, lower energy-related emissions by providing shading that reduces the need for air conditioning and encourages the use of active transportation over autos.

While a number of local governments, such as counties and cities, are developing plans and strategies to reduce GHG emissions, many have yet to include natural and working lands as part of their strategy. To optimize these GHG reductions and public benefits across sectors, local governments, like counties and cities, should integrate natural and working lands and green infrastructure in their GHG reduction plans. The State should therefore invest in these integrated plans using a "design-build" approach, whereby a portion of the funds could support the integration of natural and working lands in a GHG reduction plan (the design) with significant funds also dedicated to implementation (build) to achieve the reductions identified in the plan.

IV. *Increase coordination among agencies in investment decisions.*

To achieve the integrated systems approaches outlined above, agencies will need to increasingly coordinate their actions and in some cases collaborate on program delivery. The development of grant guidelines and the review of submitted proposals should include a process that allows for input and collective decision-making from multiple relevant agencies. An example of this includes the Environmental Farming Act Science Advisory Panel at the Department of Food and Agriculture (CDFA), which includes citizen appointees from CDFA, the Natural Resources Agency and Cal-EPA. The Advisory Panel provides recommendations on grant guidelines for the State Water Efficiency and Enhancement Program (SWEEP).

Investments in rural watersheds would benefit from close coordination of grant programs at Cal Fire and the Department of Fish and Wildlife to maximize benefits to wildlife adaptation and watershed health. Further coordinating with grant programs focused on downstream rangelands, agricultural lands, and urban areas would promote habitat connectivity and watershed function.

To guide this process, agencies should individually and collectively identify priority areas for investment that also produce priority co-benefits. Investments should be large enough and made with enough focus and coordination to make a material difference for net GHG reductions.

V. *Systematically assess GHG reduction opportunities across the state, including both reductions and sequestration opportunities.*

Due to the complexity and variability of natural systems, many of the potential emissions reductions in the natural and working lands sectors are difficult to fully quantify. More work

should be done to assess the current and potential carbon sequestration benefits of our natural and working lands. In addition, the potential emissions benefits of landscape protection due to avoided conversion to more intensive uses should be clarified.

In order to better guide the investment of cap-and-trade auction proceeds, the State of California should perform a systematic spatial analysis to support the success of GHG reduction actions in the natural and working lands sectors, using a standardized approach. This analysis should be used to identify the greatest opportunities to reduce GHGs and sequester carbon. This information could be used as a data layer alongside other statewide plans to advance the maximum GHG reductions while achieving multiple benefits.

VI. *Prioritize investments that also advance climate resilience and larger complementary policy goals, as well as co-benefits.*

As the state deals with deepening drought, warmer temperatures, rampant forest fires, continued loss of habitat and biodiversity, and the threat of sea-level rise along approximately 1,100 miles of California coastline, state investments in infrastructure and GHG reductions should, where possible, go to strategies that maximize co-benefits. Cap-and-trade auction proceeds investments must first and foremost achieve GHG reductions and/or carbon sequestration benefits. But the investment planning process should also include processes to ensure that other complementary policy goals benefit from these investments. Relevant complementary policy goals include, but are not limited to, adaptation and climate resilience, management of organic wastes, economic and environmental justice, air and water quality and public health.

This could be implemented by assessing investments and grant applications for their consistency with state policy plans such as the Safeguarding California Plan, State Water Action Plan, Forest Carbon Plan, State Wildlife Action Plan and Sustainable Communities Strategies. Agencies could review, score, and select projects based on criteria developed from consultation with these complementary policy plans.

Additionally, agencies could score projects based on their potential to produce a variety of environmental, social, and economic co-benefits. Projects that produce numerous co-benefits in addition to GHG reductions should be given preference.

As mentioned above, certain resource management strategies can advance Governor Brown's E.O. B-30-15 by reducing emissions and adaptation simultaneously: natural and working lands provide significant climate change adaptation benefits to humans and wildlife in addition to their great ability to sequester greenhouse gases. Restoration and conservation of natural systems like forests, grasslands, agricultural lands and wetlands can create stronger natural systems that also provide protection from natural climate impacts. For example, wetlands can provide protection

from flooding, while also providing valuable wildlife habitat and cleaner water. Additionally, protecting and restoring natural and working lands supports better watershed function, buffering California during periods of drought or extreme precipitation worsened by climate change.

VII. *Ensure that rural communities benefit from GGRF investments and recognize that these investments also benefit urban areas.*

The Concept Paper notes the importance of investments that benefit rural communities and economies. These areas are often stewards of the state's natural and working lands, with rural economies and livelihoods heavily reliant upon our farms, ranches, forests, and wetlands. Investments in these communities can simultaneously enhance their ability to steward the state's natural resources and provide resiliency in the face of climate impacts.

It must also be recognized that investments in the more rural areas of the state can provide GHG and public benefits not only to the immediate area, but also downstream benefits to urban communities in the form of clean drinking water, clean air and flood protection. For example, looking at the forest and watershed in a holistic way, and planning for healthy, carbon-rich, and resilient landscapes along the watershed continuum will help store carbon in a more secure manner that also help safeguard water supplies while providing habitat corridors, recreational opportunities, and connectivity between different ecosystems.

Investments should ensure geographic equity by recognizing the value of these downstream benefits, as well as the economic and societal co-benefits for vulnerable rural communities. Where appropriate, projects should include outreach and technical assistance to ensure that hard-to-reach communities are able to benefit from – and provide maximal GHG reductions through – rural area investments.

VIII. *Ensure investments are designed to secure enduring benefits.*

A unique characteristic of the natural and working lands sectors is that the benefits build over time: early investments in forest lands conservation, for example, can annually sequester additional carbon over a multi-decadal time period. However, programs must be designed to achieve lasting management changes so that these landscapes remain healthy and capable of producing long-term benefits.

In the agricultural context, for example, investments should be designed to achieve transformative changes towards systems that combine multiple climate-friendly agricultural practices into a management planning framework. Incentives for implementing a single climate-friendly practice can have a short temporal impact, but programs that encourage the use of multiple complementary practices in tandem with one another can produce more lasting change.

Similarly, urban forest projects involve much more than the initial planting of trees. Preliminary planning is vital to ensure optimum site placement for maximum healthy growth for carbon sequestration and co-benefits such as improved air quality and cooling. As these projects are currently directed to public property, contractual agreements with local governments and agencies setting out urban forest management and maintenance requirements are key to the long-term viability of urban trees. Given the current state of public works and parks department staffing levels and budgets, additional incentives are recommended to guarantee urban forest sustainability and the long-term stewardship needed to protect these valuable natural resources.

Where feasible, we suggest coupling investments with long-term agreements that ensure that the benefits of the investments are maintained.

Specific Recommendations:

I. Expand use of conservation easements as a tool to sequester additional carbon and reduce emissions from the landscape.

Conservation easements provide a significant opportunity to produce enduring greenhouse gas reductions from the landscape. This voluntary legal instrument and incentive for landowners limits land conversion to other uses and guides management practices. These legal limitations "run with the land" and have the effect of reducing GHG emissions due to land conversion. They can also advance additional carbon sequestration by guiding management practices on the landscape. While a small amount of funds in the first three year investment period have been dedicated to conservation easements through the Forest Legacy Program and the Sustainable Agricultural Lands Conservation program, funding for conservation easements should be significantly expanded across all relevant landscape types.

A. ***The Wildlife Conservation Board should be among the eligible entities to receive funds from the GGRF to advance the use of forest conservation easements.***

The Wildlife Conservation Board (WCB) operates throughout the state and works closely with the Department of Fish and Wildlife to incorporate climate adaptation terms into conservation easements. The WCB has been the entity responsible for administering the overwhelming amount of funding for conservation easements in the past, and has a long track record of working with landowners and conservation partners. The Board includes a Legislative Advisory Committee, and has the capacity to manage the conservation easement purchases and other real estate transactions that will be an important part of achieving our natural and working land climate goals.

B. ***In addition to conservation easements that preclude development, expand use of Working Forest Conservation Easements to achieve permanent improvements to management in priority watersheds.***

The Concept Paper recognizes the need to take a comprehensive approach to climate mitigation at significant scale across ownership boundaries to sequester more carbon, restore better watershed function, and improve the stability and resilience of our forests. Because of the long-term nature of efforts to restore well-functioning forests, investments must be coupled with a mechanism to maintain the desired improved condition.

On private land, working forest conservation easements that require habitat elements and management that achieve the GHG reduction goals, as well as climate resilience, will be the most cost effective way to ensure the desired future condition and corresponding public benefit. As mentioned earlier, because easements are monitored in perpetuity by a qualified land trust, they ensure public benefit from investments without creating an ongoing cost burden for the state. Working forest easements in actively managed mixed conifer forests that include terms to significantly increase carbon stocks, improve habitat quality, and enhance climate resilience cost around $800-1,000 per acre and result in carbon sequestration at about $6-8/ton when considered over the next 50 years.

II. *Invest in California desert ecosystems to sequester more carbon and reduce GHG emissions*

The Investment Plan should include desert ecosystems as part of the natural and working lands sector. California's diverse desert vegetation has the potential to actively sequester carbon and store it for long periods of time in desert soil. In a report prepared by the Center for Conservation Biology at the University of California, Riverside, carbon dioxide is fixed and stored in desert soil at a rate of approximately 0.25 - 2.5 tons/acre per year depending upon the particular ecosystem[2]. And just like other natural ecosystems, these areas can be high emitters of stored greenhouse gases if the land is disturbed. Disturbance of fragile desert soil results in fragmentation and erosion, exposing stored carbon to the atmosphere.

As a large, relatively untouched region covering approximately 28% of the state, there is high potential for significant greenhouse gas reduction benefits if these lands are protected, restored, and conserved. Unfortunately, we are now seeing a significant increase in disturbance of desert soil as cities and businesses look to it as an area open to development. Additionally, off-highway

[2] *Carbon Balance in California Deserts: Impacts of widespread Solar Power Generation*, Center for Conservation Biology, University of California, Riverside. 2013. p.11, http://www.energy.ca.gov/2014publications/CEC-500-2014-063/CEC-500-2014-063.pdf

vehicle (OHV) use in undesignated areas has caused significant damage to environmentally sensitive areas.

State investments should include conservation easements on intact desert lands with high value for carbon and sensitive wildlife, as well as the enforcement of OHV closures and off-limits areas. Opportunities for restoration and carbon sequestration include plant and soil recovery in developed areas as well as around the Salton Sea.

III. ***Expand scope of urban resource investments to include local parks, riverways, green alleys and schoolyards, and related green infrastructure.***

We applaud the Air Resources Board for recognizing the need for continued investment in California's urban forests, and support the strong connection that CARB has highlighted between urban forestry and environmental justice. As noted in the concept proposal, "the potential benefits of forests located in urban areas-including carbon sequestration, air filtration, community cooling, improved active transportation and recreation conditions, improved storm-water runoff, and water retention-are under-realized." Current investments through CAL FIRE's Urban and Community Forestry Program are supporting these myriad project benefits, and should continue.

Many of these potential benefits should also be realized through climate-smart green infrastructure projects in urban areas that connect, cool, absorb, and protect. Examples of climate-smart green infrastructure include green alleys, school yards, parks, riverways and greenways. Multi-benefit green infrastructure investments are an essential strategy to reduce GHG emissions that are currently missing in the expenditure plan. A climate-smart green infrastructure approach increases mobility options in communities to ensure transportation mode shifts, captures and cleans our water, reduces energy usage connected with urban heat island effect, and sequesters GHGs through natural infrastructure. These strategies produce important health co-benefits for our communities as well, by cleaning the air, promoting active transportation, reducing heat-related illnesses, providing outdoor recreation opportunities, increasing community connection, and increasing climate resilience. Creating cross-cutting investment opportunities for climate-smart green infrastructure will complement current investments in urban and rural forestry, wetlands, and other natural resources. It will also catalyze much needed integration at a local level, incentivizing local jurisdictions to coordinate across agencies for investment decisions and planning. These multiple-benefit investments will increase the overall impact of funding, help advance knowledge within the field of low-carbon community development, and promote replication.

Conclusion:

Thank you for the opportunity to comment. The Natural and Working Lands Coalition looks forward to participating in this process as the next Investment Plan takes shape. Please let us know if you have any questions about our recommendations.

Sincerely,

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