

The Nature Conservancy (TNC) commends the California Air Resources Board (ARB) for its completion of the Climate Change Draft Scoping Plan pursuant to the Global Warming Solutions Act of 2006. TNC is a leading conservation organization working locally and around the world to protect ecologically important lands and waters for nature and people. Global warming is one of the most pressing issues of our time and threatens the natural systems upon which all life depends. It is therefore critical for California to maintain its leadership and momentum to mitigate global warming and implement measures to help our natural systems and society adapt to any unavoidable effects of global warming. We appreciate the opportunity to provide input on the draft scoping plan in support of this process and outcome.

In general, TNC supports the comprehensive nature of the recommendations outlined in the Draft Scoping Plan to meet California's greenhouse gas reduction goals. In particular, we appreciate the recognition that forests have an important role to play in the global warming solution. As ARB, in conjunction with other state agencies, seeks to develop this section and related sections of the document in more detail, we encourage greater elaboration on: 1) the role that our forests and natural systems play in regulating our climate; and 2) how human actions can influence these systems to be a part of the global warming problem (i.e. an emissions source) or part of the solution (i.e. a net "sink").

It is essential for the Scoping Plan to identify and facilitate policies that lead to real and permanent greenhouse gas (GHG) emission reductions. Likewise, it is equally critical for such policies to be developed through a lens that fosters and protects the multiple benefits of our natural systems to maintain their integrity and public benefits for the long-term. We encourage ARB to use this frame of reference as it develops GHG policy recommendations and build upon the strong foundation it has established in the Draft Scoping Plan. Below, we provide a summary of recommendations followed by a more detailed explanation.

### **Summary of recommendations:**

- Establish a nonbinding stretch target as well as an emissions "floor" (i.e. no net loss) for the forest sector to facilitate policies that minimize or avoid GHG emissions due to forest loss and encourage the removal of atmospheric CO<sub>2</sub> through the restoration of forest carbon stocks on the landscape
- Develop a spatial analysis of carbon threats and opportunities across the California landscape that can be used to refine forest sector targets over time and effectively link policy measures and project implementation to state GHG targets
- Ensure proper upfront GHG accounting estimates and protocols exist for GHG policy measures that are developed and implemented through multiple entities or agencies
- In conjunction with a rigorous declining cap, permit GHG emissions trading and the inclusion of forest offsets

- Promote investment in and purchases of voluntary offsets from the forest sector and other land types as part of public outreach and education
- Amend California Environmental Quality Act guidelines to minimize, assess and mitigate forestland conversion and associated GHG emissions
- Facilitate regional and local land use planning to minimize emissions associated with land conversion, restore carbon stocks and incorporate adaptation measures for natural systems to promote climate and other environmental and social benefits
- Establish a GHG reduction insurance pool to promote additional greenhouse gas reductions and minimize risk associated with attainment of GHG reductions
- Dedicate 20% of funds from the California Carbon Trust to natural system adaptation
- Ensure any biomass energy production includes adequate upstream GHG accounting and employs proper environmental safeguards

## **Detailed Recommendations:**

### **Forest Sector: General Framework Recommendations**

*Establish a nonbinding stretch target as well as an emissions “floor” (i.e. no net loss) for the forest sector to facilitate policies that minimize or avoid GHG emissions due to forest loss and encourage the removal of atmospheric carbon dioxide (CO<sub>2</sub>) through the restoration of forest carbon stocks on the landscape*

TNC supports and commends the Draft Scoping Plan recommendation to establish a target for the forest sector. As currently written, the target and the Plan’s proposed measures to reach this target need additional clarification. We recognize the value of a single atmospheric flux number, which is reflected in the current target as -5 MMTCO<sub>2</sub>e. However, to provide greater clarity and a reference to monitor the effectiveness of policies over time, we recommend breaking down this single carbon flux number to established sub-targets. These sub-targets should include California forest landscape targets to 1) minimize or avoid GHG emissions associated with forest loss and 2) increase/restore forest carbon stocks on the landscape through activities such as reforestation and changes in forest management.<sup>1</sup> These targets should be established for 2020 and 2050 to accommodate the biological timeframe of forest carbon accumulation and loss and reflect cumulative carbon stock increases over time to account for the permanence (or duration) of forest-based reductions. Additional sub-targets and tracking can be established for downstream emissions related to wood products that are imported, as well as wood product decay in landfills. As noted, any emissions reductions associated with the production of biomass energy from forests would be appropriately accounted for in the energy sector, so long as the upstream carbon impacts to the forestland base are also captured and perverse environmental consequences to wildlife and habitat are avoided.

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<sup>1</sup> These landscape targets should also include the carbon value of any harvested wood products that are produced from them.

If the current Draft Scoping Plan target of -5 MMT of carbon dioxide equivalent is disaggregated or broken down from a single net flux number into sub-targets and corresponding “business as usual” baselines for 2020 and 2050 according to the recommendations listed above, we believe that the overall target for the forest sector could be more ambitious.

Based on the previous analysis and work of the California Climate Action Team, we believe that **an ambitious nonbinding stretch target for increases in overall forest carbon stocks on the landscape should be established** so that appropriate policies to achieve this target will be encouraged and developed. In the appendices, it appears that a greater amount of potential GHG reductions will be encouraged. However, this section needs further clarification and these additional reductions should become part of the target. While the ARB may seek to be more conservative regarding the total amount of reductions it should rely upon to meet its 2020 target, this should not prevent the establishment of a more ambitious target to strive for greater reductions and benefits from this sector and develop the policies to achieve them. As quantification protocols are developed for other segments of the land base (e.g., grasslands and wetlands) similar targets should be established.

Similar to the establishment of a stretch target for increases in overall forest carbon stocks on the landscape, **a target or “floor” should also be established to minimize or avoid emissions from the forest sector due to forest loss.** The Draft Scoping Plan appropriately acknowledges the issue of forest loss. We commend this recognition and at the same time, suggest stronger language in the final scoping plan to acknowledge that direct GHG emissions result from forest loss (it is not just loss of sequestration). To this end, we support the draft plan suggestion to establish a floor or “no net loss” of forestland policy that would effectively act as a cap on forestland conversion emissions. Similar to the target for increases or restoration in forest carbon stocks, this floor should be established as a sub-target for avoided emissions associated with forest loss.<sup>2</sup>

In addition, the above baselines and sub-targets should be established for lands within California’s jurisdiction. There is value to coordinate with federal agencies, such as the US Forest Service, to establish similar baselines and targets for lands under federal jurisdiction. However, these targets should be distinct to appropriately identify opportunities that are under the direct control of the state versus what is under the direct control of the federal government. Furthermore, such a distinction also allows for more appropriate and efficient policy development, coordination and tracking of progress over time. Since California does not have jurisdiction over federal lands, the state should not rely on reductions achieved on federal lands to meet its state GHG reduction target.

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<sup>2</sup> Similar sub-targets could be established for imported wood products and wood product decay in landfills.

***Develop a spatial analysis of carbon threats and opportunities across the California landscape that can be used to refine forest sector targets over time and effectively link policy measures and project implementation to state GHG targets***

As mentioned in the previous section, identifying baselines and setting distinct sub-targets for avoided emissions and increases in forest carbon stocks based on a corresponding spatial analysis across the landscape would provide a tighter nexus and monitoring capability between the target, policies and tracking of progress over time. Baselines reflecting the anticipated loss of forest carbon in the absence of intervening policies to produce climate benefits should be identified and projected across the landscape to estimate the GHG reductions or avoided emissions that could be achieved by setting an avoided emissions target. Likewise, baselines reflecting opportunities for restoring forest carbon stocks either through reforestation or changes in management should also be identified across the landscape and form the basis for estimating the total potential for restoring forest carbon stocks in these areas in a manner that is healthy for the climate and ecosystems.

This spatial analysis and mapping can be done, in part, using the analysis that has already been conducted through the California Climate Action Team, the California Department of Forestry and Fire Protection (CDF), the California Energy Commission and the US Forest Service. However, additional work will need to be done, including the harmonization of definitions to be used in the analysis so that the California Climate Action Registry Forest Protocols (i.e. project implementation) and state analysis will have greater continuity. TNC is currently examining the existing data and its mapping capabilities and would be delighted to work with ARB, CDF and other relevant state and federal agencies to refine such an approach. As mentioned earlier, GHG quantification methodologies and similar targets and baselines should be established for other land types as methodologies become available, including wetlands and grasslands.

***Ensure proper upfront GHG accounting estimates and protocols exist for GHG policy measures that are developed and implemented through multiple entities or agencies***

The effective implementation of greenhouse gas emission reduction policies for forests and other land types will require the input of multiple entities, including other state agencies and local governments. As the lead agency in charge of implementing the Global Warming Solutions Act (GWSA), the statewide greenhouse gas inventory and project level GHG accounting it will be critical for ARB to ensure that proposed policies will produce greenhouse gas reductions that meet the criteria of the GWSA. TNC urges ARB to develop a process in the early stages of policy development that incorporates a GHG reduction assessment and assigns an accounting process for individual policy proposals. Such a process will help ensure in the most effective and efficient manner that proposed policies will produce real climate benefits.

**Forest Sector: Policy Recommendations**

***In conjunction with a rigorous declining cap, permit GHG emissions trading and the inclusion of forest offsets***

We are pleased to see in the Draft Scoping Plan the suggestion for a strong and cost-effective cap on greenhouse gas (GHG) emissions with a market-based “cap and trade” program as a policy mechanism to reduce GHG emissions from major emitting sectors with opportunity for the inclusion of offsets. TNC supports this proposal, as well as a policy and process that will lead to 100% auction of permits as soon as possible. Moreover, TNC recommends that the final Scoping Plan specifically include forest-based offsets in the market-based program. The broad inclusion of forest-based offsets coupled with a strong declining cap on other sectors will foster significant GHG reductions in a cost-effective, timely and efficient manner from capped sectors, as well as sectors outside of the cap. It will also establish a precedent to secure a role for forest offsets, and ultimately offsets from other land types, as effective GHG mitigation tools, which is a public service that has been undervalued historically.

As specified in the GWSA, GHG reductions, including offsets, must be real, permanent, quantifiable, verifiable, and enforceable. The California Climate Action Registry Forest Protocols, endorsed by the ARB in the fall of 2007 as a voluntary GHG reduction early action measure, provide a strong accounting foundation to ensure that forest offsets would satisfy these compliance criteria. We urge the ARB to include the forest sector as compliance grade offsets in the proposed cap and trade program, using the CCAR Forest Protocols as the basis for including and quantifying forest offsets.

Forest offset projects also present a significant opportunity for the state to foster multiple environmental and public benefits, such as the protection of habitat, wildlife, water quality and local economies. The protection and enhancement of these benefits can foster diversity and resiliency of natural systems, thereby helping the state achieve its concurrent and related goal of preparing people and natural systems to adapt to the effects of global warming.

Furthermore, we support the recommendation to link California’s cap and trade program with the broader Western Climate Initiative. Forest offsets should play a role in this larger emissions trading system and meet the same level of accounting rigor established by the California Climate Action Registry Forest Protocols and the GWSA.

***Promote investment in and purchases of voluntary offsets for forest sector and other land types as part of public outreach and education***

TNC supports the recommendation in the Draft Scoping Plan to promote voluntary offsets from the forest sector. As mentioned earlier, the ARB adopted the CCAR Forest Protocols as a voluntary early action measure in October of 2007 to promote these voluntary activities. We also encourage the ARB to facilitate the development and adoption of protocols for other land types, such as grasslands and wetlands, so that they may also serve as a source of voluntary

GHG reductions. Greenhouse gas reductions from these sectors can be significant, and for the reasons stated in the previous section, these offset projects can achieve multiple environmental and public benefits. To foster voluntary reductions in these sectors and encourage greater investment in them, the ARB should incorporate and support this initiative in its public outreach and education efforts.

***Amend California Environmental Quality Act guidelines to minimize, assess and mitigate forestland conversion and associated GHG emissions***

The California Office of Planning and Research effort to revise the California Environmental Quality Act (CEQA) guidelines to include greenhouse gas emissions provides an opportunity for the ARB, in coordination with CDF and the California Resources Agency, to minimize GHG emissions associated with Forestland (and ultimately other land types) conversion. When forests are converted to non-forest uses, such as agriculture or development, they become a direct source of CO<sub>2</sub> emissions, as the carbon stored in forest biomass (live tree, roots and soil) is released to the atmosphere.

Globally, forest loss is responsible for roughly 20% of human-caused CO<sub>2</sub> emissions. While much of these net emissions are currently occurring in the tropics, California and the rest of the United States continue to lose forestland to development and other uses. Unlike GHG emissions from other sectors such as oil refining and transportation, which are assessed on an annual basis, emissions due to forestland and wild land conversion, in general, must be assessed over longer time horizons to fully capture its significance. It is also important to note that conversion of these lands means not only direct emissions, but also the continued loss (foregone opportunity) of our natural capacity to remove and store CO<sub>2</sub> from the atmosphere.

For the state to implement a “no net loss” policy or forest floor as mentioned earlier in this document, policies and programs that land conversion and associated GHG emissions must be adopted. Towards this goal, we request that the final Plan clearly establish the use of CEQA as an appropriate tool to avoid or mitigate carbon emissions from forest and wild land (e.g., wetland and grassland) conversion. The Draft Plan makes the suggestion that this may be an effective tool and TNC recommends stronger language in the final plan. TNC will provide more specific recommendations regarding how CEQA may be used as an effective mechanism in the near future.

***Facilitate regional and local land use planning that minimize emissions associated with land conversion, restore carbon stocks and incorporate adaptation measures for natural systems to promote climate and other environmental and social benefits***

TNC commends the ARB for including local governments and regional land use planning in the Draft Plan to facilitate GHG reductions associate with transportation and development. We strongly recommend that this section be expanded to incorporate land use planning tools and strategies to address direct GHG emissions and reductions from the land base that are caused by

land use decisions (avoiding and minimizing GHG reductions due to conversion and fostering the restoration of additional carbon stocks). The decisions to permit conversion of forests and wild lands to other uses, which cause direct emissions from the landscape, are largely made at the local level. It is therefore critical for the ARB to engage local governments and regional planning agencies in land use planning efforts that consider the GHG impacts to natural systems.

Land use planning processes and documents should be developed at the county or regional levels across the state to foster and protect forest lands and other wild lands for climate benefits. The Draft Scoping Plan identifies regional blueprints as a planning mechanism to address GHG emissions. These plans should integrate GHG emissions and reductions from the land base (i.e. forests, grasslands, wetlands). Natural Community Conservation Plans may also be a useful planning tool for the integration of land-based GHG emissions and reductions. These regional plans should also integrate adaptation measures for natural systems.

Similar to the Draft Plan's suggestion of regional targets for transportation related GHG gas emissions, regional targets should also be established for forestland protection, management and restoration. As GHG accounting methodologies for other land types are developed, similar appropriate targets should be established. Ultimately, these regional targets should dovetail with the targets and baselines established at the state level to synchronize information, track progress and avoid double counting. Some counties, like Sonoma and Marin, are already considering ways to include their forestlands as a way to achieve their GHG reduction goals.

### ***Dedicate 20% of funds from the California Carbon Trust to natural system adaptation***

TNC supports the Draft Scoping Plan proposal to establish a Carbon Trust to collect revenues generated from the climate programs it enacts, including cap and trade system auction revenues and other related fees. The Plan rightfully acknowledges the need to dedicate these funds to help human communities and the natural systems adapt to global warming. We urge ARB to dedicate in the final Plan at least 20% of the revenues to plans, projects and programs that foster adaptation for natural systems, wildlife, plants and habitats so that they have the greatest opportunity to survive the negative impacts of global warming, as these systems are expected suffer increasing stress. The health and well-being of our communities depends on healthy ecosystems.

### ***Establish a GHG insurance pool to promote additional greenhouse gas reduction projects and minimize risk associated with the attainment of GHG reductions***

The ARB should consider the development of a GHG reduction insurance pool that would help address risks associated with GHG reductions and offset projects in a variety of sectors, including the forest sector. These risks include leakage, reversal of reductions, and non-delivery of reductions, among others. Such an insurance pool could also be a part of the Carbon Trust as mentioned in the previous section.

These “insurance reductions” may come from the forest sector or multiple sectors and would be verified by the state or other state-approved verifiers. The pool could be comprised completely of state attained/funded GHG reductions or a combination of both privately and publicly funded reductions. Initially, the pool could be developed through the use of proposition funds and voluntary reductions attained by state agencies. Ultimately, the pool should be self-sufficient through the payment of insurance fees by entities that need insurance. The funds generated by the payment of fees could then be re-invested in GHG reduction projects to expand and maintain statewide GHG reductions and the pool.

***Ensure any biomass energy production includes adequate upstream GHG accounting***

Biomass material from the forest sector may provide a net climate benefit by serving as a renewable energy source. However, the generation of forest biomass for energy must include proper environmental safeguards and upstream GHG accounting. Experience with other sources of biofuels such as corn and palm oil highlight the need to track both climate and environmental impacts upstream on the land base to ensure that the production of fuels downstream to not result in environmental harm or increases in land-based GHG emissions through the depletion of carbon stocks or land conversion.

It is possible that the production of cellulosic material for energy could result in a net increase of emissions from the forest if harvests are accelerated to produce material for energy, as existing live forest carbon pools (live trees) may be depleted over time for biomass material production. To ensure that this does not happen, it must be demonstrated that existing forests and their carbon pools are at least managed in a “steady carbon state” over time. Therefore, the greenhouse gas accounting related to forest biomass energy should quantify not only the emissions associated with the combustion of biomass material, but also the upstream changes in forest carbon. Greenhouse gas emissions associated with the transportation of these materials should also be considered. Without this comprehensive accounting, there is a risk that net increases in GHG emissions may occur upstream in the forest over time in order to produce material for energy further downstream. Any policies developed by CARB and other agencies to facilitate biomass energy from forests should include these GHG accounting requirements and environmental safeguards that protect against harm to ecosystems, wildlife and habitat and ensure real climate benefits.

**Water:**

In general, TNC supports the Water Section proposals as stated in the Draft Scoping Plan. The ARB has effectively synthesized the measures and strategies discussed at the March 20, 2008 meeting of the California Water Plan Update 2009 Advisory Committee and the February and May 2008 meetings of the State Water Resources Control Board. To strengthen this section, TNC offers the following recommendations:

- It appears that the groundwater recharge option was deleted from the Reuse of Urban Water measure. Either reconsideration of this strategy or an explanation of its exclusion would be informative.
- Increases in conjunctive use of surface and groundwater as another method to meet local and regional water supply needs can also produce GHG reductions. TNC encourages ARB to consider this option and examine its potential.
- The Draft Scoping Plan footnotes acknowledge that GHG reductions from the water sector may already be incorporated in the 2020 forecast and they are therefore not currently counted toward the 2020 goal. TNC is concerned about the baseline projection and how GHG reductions are being counted for the water sector. Further elaboration is needed to explain whether the baseline included changes in water use by 2020 and if so, how these changes have been accounted for.
- The Public Goods Charge for Water needs additional elaboration. The rationale for assessing a flat-rate charge should be provided. In addition, explanation should be provided regarding the treatment of regions and communities that have implemented many of the recommended water sector measures. Furthermore, revenues from the public goods charge should be made available not only for the recommended water sector measures, but also for integrated regional water management programs.

Once again, TNC appreciates the opportunity to provide input on this critically important effort and acknowledges the significant amount of work that the ARB and other state agencies have invested in this Draft Scoping Plan. We look forward to continued work with the ARB, state agencies, and other stakeholders to provide support for California's leadership and solutions to address global warming.

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