

Climate Action through Landscape Conservation in Sonoma County: A Model Climate Strategy for Counties

PROJECT SUMMARY

Project purpose: The purpose of this project is to help Sonoma County, and ultimately other counties across California, address climate change through natural resource conservation and land use. We will do this by developing a replicable countywide portfolio of tools, policies and economic incentives for Sonoma County that facilitate the conservation of priority natural and working landscapes to optimize climate benefits, as well as other critical public benefits for the region.

Project Leads: Sonoma County Agricultural Preservation and Open Space District and The Nature Conservancy

Rationale: Local governments play a critical and much needed role in land use, conservation and climate change. Decisions made by counties impact whether natural or working lands will remain intact to remove additional carbon dioxide from the atmosphere or be converted to other land uses. Their conversion to other uses can lead to additional GHG emissions and the elimination of ongoing carbon sequestration benefits. Furthermore, better integration of land use and conservation planning is an essential step toward focusing growth, transportation and infrastructure in areas that provide the greatest advantage to communities while also preserving the broad suite of essential benefits provided by natural and working lands. These benefits include clean air and water, protection against severe weather events, the provision of fish and wildlife habitat, as well as climate regulation. The need to protect these benefits for human communities and ecosystems is even more critical against the backdrop of our warming climate.

Counties and local governments are increasingly interested in finding ways to address climate change. Counties like Sonoma are also establishing their own climate action plans and targets. Likewise, state and federal governments are also seeking ways to engage counties, regions and local governments in policies and programs to reduce GHG emissions and create economic incentives to participate in these opportunities. In California, pursuant to the Global Warming Solutions Act (AB32) and the recently enacted Sustainable Communities and Climate Protection Act (SB375), GHG reduction goals are being established for regions and local governments. These reductions can be derived from transportation and energy efficiency, but also changes in land use and conservation.

While a number of GHG reduction accounting methodologies exist to estimate GHG emissions and reductions from transportation and energy use, there is very little guidance available to counties to estimate biological GHG emissions and sequestration associated with various land use scenarios and activities. Furthermore, there is little guidance on how these considerations could be integrated with greenprints and regional transportation plans in a manner that optimizes and estimates the climate and environmental benefits of natural resource conservation while

attaining desired GHG reductions goals in other sectors. This project, with Sonoma County as the pilot project, seeks to develop such infrastructure to help counties integrate their land use, transportation, climate change and conservation plans, quantify the emissions and sequestration associated with different land use scenarios and actions, and inform regional planning efforts. It will also connect Sonoma County and other counties to key climate initiatives and economic incentives that will enable them to more effectively reduce GHG emissions through countywide conservation actions, and potentially access funding associated with GHG emissions reduction goals

Key strategies and deliverables include:

- 1) A county-scale model greenprint.¹ This greenprint will integrate climate change mitigation and adaptation elements into the District's current conservation planning which identifies, maps and prioritizes conservation areas important for the long-term maintenance of species, ecosystem services, recreational space and working landscapes (including agriculture, ranching and working forests). It will build on existing regional and countywide conservation planning and the county's Climate Action Plan to develop a map-based vision that will integrate climate change adaptation and greenhouse gas mitigation goals. This will serve as a model for counties across California and nationwide to link climate and land protection goals.
- 2) A spatially explicit county-wide biological greenhouse gas accounting framework. The framework will be integrated with the county greenprint and will include an accounting and monitoring methodology and tool that enables counties to forecast, track and report carbon sequestration and biological greenhouse gas emissions (GHG) associated with different land use scenarios and practices. The methodology and tool will include natural and working forest landscapes, urban forests, and grasslands and provide flexibility to incorporate other land cover types over time (e.g., agricultural lands, wetlands, etc.).
- 3) A spatially-explicit forest carbon and grassland inventory for Sonoma County. A countywide baseline of carbon in forests, woodlands and grasslands will be established for Sonoma County utilizing remote sensing technology and field based data. This baseline data will be integrated with and support the tools and methodologies developed for the GHG accounting framework and enable Sonoma County to monitor and report sequestration and biological GHG emissions from its natural and working landscapes over time.
- 4) Climate policy integration and recommendations, based on the greenprint, accounting framework and inventory. The initiative will include a focused effort to establish a clear role and economic incentives for counties and conservation in emerging climate policies and initiatives at the local, state and federal levels. These will include, but not be limited

¹ A plan that identifies strategically planned and managed networks of natural lands and working landscapes, including, but not limited to, farmland, rangeland, working forests, and recreational and other open-space areas that conserve ecosystem values and functions, provide associated benefits to human populations, and is integrated into community and regional growth strategies.

to, Sonoma County's Climate Action Plan, the Sonoma County Agricultural and Open Space District Strategic Plan and Acquisition Plan, the Sonoma County Regional Climate Protection Authority Strategic Plan,² California's GHG cap and trade program and the Sustainable Communities Strategies developed pursuant to California Senate Bill 375. The critical building blocks developed as part of this initiative will enable other counties to take advantage of local and state climate programs. The initiative will also identify other climate policy strategies and incentives that would effectively engage counties in climate mitigation and adaptation activities and facilitate new policy initiatives.

- 5) Implementation of pilot projects. The initiative will include at least one pilot project in Sonoma County where lands either currently in conservation management or newly acquired in fee or easement are used to develop and test monitoring protocols for carbon and are reported using the GHG accounting framework.

- 6) A framework and strategy to export to other counties, land managers and policy-makers the technology and lessons learned. The initiative will include a process and provide model framework to replicate and integrate the greenprint and GHG accounting framework in counties and regions across the state. It will include public outreach and education, as well as recommendations regarding how the framework may be integrated with regional land use and transportation plans. It will provide an accessible method for use by regions to quantify the broad suite of climate change and other conservation benefits to promote region-wide conservation, GHG reductions, adaptation to climate change, and sustainable communities.

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² The Sonoma County Regional Climate Protection Authority (RCPA) is a consortium of nine cities and the county of Sonoma focused on climate mitigation and adaptation, and the Sonoma County Agricultural and Open Space District has the role of implementing conservation and agriculturally-based climate mitigation and adaptation actions on behalf of the RCPA.