Contra Costa County Climate Adaptation/Resilience Snapshot
Compiled by the Bay Area Climate & Energy Resilience Project (BACERP)
March 2014

This summary memo is based on input from Contra Costa County climate stakeholders. The information was gathered via phone, email, web search, and an in-person group meeting co-hosted by the Contra Costa County's Health Services in November 2013. The information is presented in four sections:

- County-Level "Spotlight" Adaptation & Resilience Initiatives
- Climate Planning Activities
- Current Structure for Coordination Among Cities
- Resources and Assistance To Accelerate Action

I. County-Level "Spotlight" Adaptation & Resilience Initiatives

Across the Bay Area, government, non-profit and private sector stakeholders are developing and implementing programs that address climate impacts (e.g., sea level rise, extreme storms, fire, heat) and build community resilience. Some are called "climate adaptation" projects, while others focus on health, transportation, or land conservation, but provide substantial climate adaptation or resilience co-benefits.

Whatever they are called, these efforts are increasingly mainstreaming climate issues into community planning and making our cities more prepared for the physical, economic, and social impacts of climate change. Importantly, a number of these programs can provide a wonderful double-benefit, by building local resilience AND reducing greenhouse gas emissions. For example, in Contra Costa County:

- The City of Antioch recently completed a $4.6 million streetlight retrofit that will result in half a million dollars in savings per year.
- The East Bay Leadership Council is participating in the East Bay Broadband Consortium – a project that could help to reduce business travel and transportation emissions through expansion of broadband access.
- Save Mount Diablo is pursuing land preservation for multiple benefits, including parks and open space as a buffer to fire and carbon sequestration.
- East Bay Regional Parks District has completed a carbon foot-printing analysis to calculate how much carbon they have currently sequestered as well as an annual sequestration estimate.
- The major transit-oriented development (housing, offices and services) efforts around the Pleasant Hill BART station are cutting transportation emissions for both residents and workers.
- The Contra Costa Water District is working to develop more reliable water supplies and is participating in the Integrated Regional Water Management Plan process to help prepare for drought and other climate-related impacts.

At the same time, there are a growing number of region-wide, climate-related initiatives such as Plan Bay Area, the Bay Area Ecosystems Climate Change Consortium, PG&E's infrastructure protection work, the Integrated Regional Water Management Plan, TBC3's fine-scale hydrology mapping for land managers, the Bay Area Council's extreme storm study, Bay Localize's *Community Resilience Toolkit 2.0,* BayREN (energy efficiency), Cal-BRACE (health), and the Baylands Ecosystem Habitat Goals Project. (These regional efforts are outside the focus of this county-level report.)

Within this broad and growing "climate" context, we have selected 7 Contra Costa climate adaptation and resilience initiatives to "spotlight" as notable examples of *county-level innovation* and *leadership*. These are described below with the hope that they will inspire and inform stakeholders in counties across the region. (Note: For accuracy, we have used language from project web sites where possible.)

Web links are provided for each spotlight initiative. To learn more, including project contact info, email the BACERP staff — Bruce@bayareajpc.net or Aleka@bayareajpec.net.

Contra Costa County Flood Control Leadership

Leadership in adaptation and flood control planning

Contra Costa flood control staff has taken regional leadership in preparing for the impacts of climate change. Working in conjunction with the Bay Area Flood Protection Agency Association, staff has been instrumental in significantly raising awareness on the need to accelerate regional flood control planning. They have forcefully advocated for funding, governance, science information, and uncertainty issues to be put "on the table" for multi-stakeholder discussions.

Flood Control 2.0/Walnut Creek

Promoting economic and environmental benefits through smart flood management

Flood Control 2.0 is a regional three-creek project that is developing a set of innovative approaches for bringing environmental benefits and cost-savings to flood protection infrastructure along the bay shoreline. Walnut Creek, Novato Creek, and San Francisquito Creek are the focus areas. The strategy has two complementary approaches that transform costly, trapped sediment in local flood control channels into a resource:

- Channel redesign where sufficient adjacent land use flexibility exists
- Sediment redistribution for highly constrained channels

Flood Control 2.0 will advance channel redesign to restore wetland habitat, water quality, and shoreline resilience through demonstration projects. At a regional scale, the project will collect and integrate data on coarse sediment and historical stream characteristics with the results of the local projects. The resulting strategy will increase environmental benefits and cost-savings to all flood protection efforts in the region.

Contra Costa County Health Services: Climate Leadership

Making the Link Between Public Health and Climate Change

County Health Services is taking a leading role in climate change/health strategy development. Currently, staff members are developing a comprehensive white paper on the connection between climate change and public health impacts in the county. The paper is intended to serve as a starting point for further discussion and collaboration on climate and health issues and will be released in early 2014.

At the same time, Health Services is now in the process of completing a hazard and vulnerability assessment for the county's public and private medical system facilities. This new assessment will consider the impact of increased fires, floods and other climate impacts based on facility location to better prepare the county to deal with climate related disasters and emergencies.

Health staff also identified key health impacts of climate change in the county's draft Climate Action plan and highlighted "win-win" strategies that both slow down further climate change and immediately improve human health as "co-benefits."

Finally, the Planning Integration Team for Community Health (PITCH), established by the Board of Supervisors in 2007, integrates public health considerations into land use and transportation planning and engineering activities. The inter-departmental team includes the Department of Conservation and Development, Public Works and Health Services. Projects have focused on Complete Streets implementation, the One Bay Area grant and the County Climate Action Plan development.

Richmond & Marin Clean Energy

East Bay city brings renewable power & energy efficiency to residents and businesses

The City of Richmond is the first Bay Area city to join an adjacent local Community Choice Aggregation (CCA) program to provide residents and businesses with more local control over energy sources. Richmond residents and businesses now have the option of purchasing 50% renewable power (Light Green) or 100 percent renewable energy (Dark Green) through Marin Clean Energy, or staying with PG&E's regional program. Richmond customers began enrollment in MCE in mid-2013. Currently, MCE is providing service to approximately 35,000 Richmond customers while other Bay Area cities consider following Richmond's lead.

Small Cities EPA Climate Showcase Grant

Collaboration across and within small cities to reduce GHG emissions

The city of El Cerrito has made significant progress in increasing both local renewable energy capacity and energy efficiency by leveraging limited resources through innovative partnerships. For example, El Cerrito has utilized nearly all of the city's solar installation capacity resulting in a 28 percent reduction in their municipal energy load.

Much of this work was funded through an EPA Climate Showcase grant, led by El Cerrito staff. The EPA grant helped four small Bay Area cities (El Cerrito, Albany, Piedmont and San Pablo) partner on a series of activities including joint solar purchases. In this way, these staff-constrained programs could pool their resources for the benefit of all.

Contra Costa County Climate Leaders (4CL)

A model nonprofit advocacy and organizing resource for Contra Costa cities

4CL is a network assisting the county and its 19 cities to inform, support and encourage climate change strategies for both GHG reduction and adaptation. The network facilitates countywide action by monitoring and documenting climate activities, providing free resources and tools, and operating a multimedia communications strategy that ensures best practices are shared and implemented.

4CL's website includes an interactive "local actions map" that details climate actions and specific accomplishments for each of Contra Costa's 19 cities providing a user-friendly way to share best practices. 4CL also provides regular workshops on specific climate and resiliency issues that are a priority in Contra Costa County. All workshops feature peer-to-peer discussions and opportunities for local governments to share lessons learned. Recent workshop topics include: Resilient Cities, Climate Change and Health, Water Conservation, Residential Energy Financing, GHG Inventories, and Reducing VMT.

Bay Area Regional Desalination Project

Contra Costa desalination facility to benefit entire Bay Area

The Bay Area Regional Desalination Project (BARDP) is evaluating the building of a desalination treatment facility at CCWD's Mallard Slough Pump Station in eastern Contra Costa County. The plant would turn brackish water into a suitable water supply. Once treated, water could be delivered through either EBMUD or CCWD's systems or "traded" through water transfer agreements. Five of the Bay Area's largest water agencies are working together to investigate how this regional project could serve the needs of over 5.6 million residents and businesses in the region.

The Contra Costa Water District (CCWD), the East Bay Municipal Utility District (EBMUD), the San Francisco Public Utilities Commission (SFPUC), and the Santa Clara Valley Water District (SCVWD) have collaborated in this effort since 2003. In 2010, Zone 7 Water Agency joined the group.

In 2013, the project partners completed the Site-Specific Analysis for the project, which included hydraulic modeling, wheeling cost analysis, greenhouse gas analysis, and Delta modeling. The partners are now looking at a broader effort to develop regional solutions to improve water supply reliability for the Bay Area; desalination will continue to be considered as a potential component.

II. Climate Planning Activities

A. Climate Action Plans

Climate Action Plans (CAP's), completed by more than 40 Bay Area cities, set goals and strategies for greenhouse gas (GHG) emissions reduction. Recently, some cities have also begun to include climate adaptation strategies in their CAP's that address heat, sea level rise, extreme storms, higher fire risk, and other climate impacts. The chart below provides key information on existing Contra Costa County climate action plans.

Climate Action Planning Activity

City	Adopted CAP	GHG Reduction Goal	Adaptation Section in CAP
Antioch	Yes	25% below 1990 levels by 2020	-
Brentwood	No	-	-
Clayton	No	-	-
Concord	Pending	Reduce emissions by 1.7 MTCO2e per capita by 2020	Integrated with GHG reduction program. Includes strategies and directives[1]
Danville	Yes	15% below 2005 levels by 2020	-
El Cerrito	Yes	15% below 2005 levels by 2020	Includes list of potential adaptation strategies by impact to be integrated into future updates and other city plans[2]
Hercules	No	-	-
Lafayette	No	-	-
Martinez	Yes	Reduce to 1990 levels by 2020	Integrated with GHG reduction program. Includes strategies[3]
Moraga	No	-	-
Oakley	No	-	-
Orinda	No	-	-
Pinole	No	-	-
Pittsburg	No	-	-
Pleasant Hill	No	-	-

[1] http://www.cityofconcord.org/pdf/dept/planning/EIR/climate_study_review.pdf
[2] http://www.el-cerrito.org/DocumentCenter/View/2689
[3] http://www.cityofmartinez.org/civicax/filebank/blobdload.aspx?blobid=6332

Richmond	No	Reduce to 1990 levels by 2020[4]	-
San Pablo	Yes	15% below 2005 levels by 2020	-
San Ramon	Yes	15% below 2008 levels by 2020	Outlines General Plan policies by impact that will aid in adaptation efforts[5]
Walnut Creek	Yes	15% below 2005 levels by 2020	-
County unincorporated areas	Pending[6] (Draft released 12/12)	15% below 2005 levels by 2020	-

B. Other Climate Planning

Pinole has included climate change as a significant component of its General Plan update.[7] The general plan addresses climate change adaptation and mitigation through more than 90 policies and actions, all developed under the umbrella of long-term sustainability.

Richmond's General Plan[8] includes a climate and energy element that examines how the city's land use and transportation network will affect energy consumption and outlines specific GHG reduction measures as well as broad resiliency goals.

San Pablo has outlined specific implementation policies in its 2011 General Plan update that include encouraging clean transportation, mandating green building and conducting GHG inventories.[9]

III. Current Structure for Coordination Among Cities

Contra Costa Climate Leaders (4CL) provides an on-going learning network for cities and other climate stakeholders (see Section I).

[4] 2020 and 2050 targets adopted by Resolution 108-08
[5] http://www.sanramon.ca.gov/plan/climateact.htm
[6] Draft released in December 2012, public review through February 2013.
[7] http://www.bcdc.ca.gov/planning/climate_change/AdaptPinolePlan.shtml
[8] http://www.ci.richmond.ca.us/DocumentCenter/Home/View/8813
[9] http://www.sanpabloca.gov/DocumentCenter/Home/View/669

IV. Resources and Assistance to Accelerate Action

BACERP staff asked Contra Costa stakeholders to identify and discuss what services or products would be most helpful to advancing their climate work. This could include assistance and resources provided by a proposed regional climate adaptation "hub." Contra Costa stakeholder input is summarized below (grouped but unranked).

Note: The bold headings describe common themes from the stakeholder discussions. The bulleted items are opinions expressed by individuals.

Help Us Coordinate Within the County and Regionally to Address Potentially Conflicting Regulations

- Proposed projects that will help us adapt to sea level rise face conflicting regulations. For example, the Regional Board considers sediment a pollutant and has developed a Total Maximum Daily Load sediment budget for various watersheds. On the other hand, depositing sediment along shorelines to increase wetland habitat is an effective way to attenuate storm surge.

- Climate change adaptation strategies must be integrated into the Floodplain Management Programs for land use agencies along the bay.

- We need to develop a forum for working out project specific conflicts that are experienced or will be experienced as we propose, plan and implement climate change adaptation projects.

- We need to understand how to streamline permitting so that new regulations under Title 24[10] don't work counter to current local energy efficiency programs and efforts.

Climate Change is a Dynamic System – We Need Integrated Thinking to Address Multiple Aspects of Sea Level Rise and Climate Change Impacts

- We need to have more clarity of purpose between our goals of adapting to sea level rise and not filling in the Bay. Horizontal Levees will work well with minimal environmental risk in some areas and will require us to fill in the Bay to construct them in others.

- There are different impacts associated with sea level rise and climate change from a watershed/flood protection perspective. There has been a lot of helpful information and discussion about the increases projected for water surfaces due to sea level rise. However, not as much information is available for the impacts to area creeks, rivers and streams due to climate change.

[10] http://www.energy.ca.gov/title24/2013standards/index.html

- Lack of measurement of various impacts is a big issue – we need to develop and track indicators.

- We need to better coordinate agencies and stakeholders so we can explain potential future scenarios to the public. For example, FEMA is finishing their coastal and bay tidal mapping effort that will include increased water surface elevations due to storm surge and wind fetch across the Bay and low-pressure zones. At the same time, BCDC has mapped potential sea level rise water surface elevations around the Bay shoreline. Meanwhile, we will also be faced with increased storm surge from the Central Valley drainage and localized increase in peak flows due to climate change. We need to consider all of these *together* to articulate what possible future scenarios could look like.

- We must develop best practices on disaster response and integrate this into climate and adaptation planning.

- We need to include economic evaluation and benefit-cost impact assessments in climate change and adaptation studies and planning – specifically, we should be aware of the cumulative impact future policies could have on job creation and retention.

Help Us Build Political Support and Communicate With Specific Communities About the Impacts of Climate Change in Their Area

- Communities along the shore do not understand the changes that will occur in their communities as a result of climate change. Increased public awareness in general and increased public awareness for shoreline communities, in particular, needs to be a key part of any adaptation strategy.

- We need help communicating that adaptation and mitigation are deeply connected.

- We need to communicate how many jobs can be created and/or restructured as a result of climate projects. This will help us reinvigorate the industrial base and build public support and funding for climate projects.

- Building political support for climate work is the most important thing the Hub can do.

- We should be engaging non-traditional climate stakeholders that could be allies, such as labor leaders and solid waste managers to build deeper political support.

- We need help with developing messaging for both internal and external communications. Specifically, we need to address attitudes around climate change by highlighting the co-benefits associated with climate adaptation projects.

Provide Us with Assistance and Support to Use The Tools and Technical Information That Is Already Available

- While there is a need for technical information, we also need assistance and support to actually use this information effectively.

- There are an increasing number of technical tools and information pieces available to cities – however, we don't actually use these tools or information because we don't have the capacity to effectively incorporate them into our current processes.

- There is an immediate need to coordinate science information among agencies.

- Flood maps from BCDC don't extend all the way out through Contra Costa, which creates a lack of integration. The county is forced to rely on multiple resources for this information and this makes it difficult to decide which data to use.

- Many cities in the Bay Area have used ICLEI's tools to create initial emissions inventories. ICLEI's processes have now changed but we continue to use the old system so we can gauge our progress. This is not ideal and is very inefficient.

- We need a common set of climate change assumptions that bay area agencies can use for planning like selecting a range of temperature increases, range of sea level rise, etc. It would be great if there could be a 'go-to' spot that contains the most up to date information containing specific planning targets.

Help Our Small Cities Identify and Secure Resources For Additional, Dedicated Staff Capacity.

- Most cities need additional resources and staff capacity as much of this work is unfunded. For example, Antioch has a small amount of staff time dedicated to climate project implementation and El Cerrito's climate work is nearly entirely grant funded.

- The Hub should develop and support regional projects that will help cities leverage the limited capacity we have.

- We need more funding but we also need assistance with grant writing to actually secure the funding.

- There is a need for more staff in each of the cities in Contra Costa. The Climate Corps Bay Area program is a good model. However, those staff members are temporary.

- Messaging on the importance of providing resources for climate work should be directed to city managers.

- The Hub should create a fund to support the implementation of new adaptation efforts in cities.

V. Participants

We thank the following Contra Costa County stakeholders who provided their valuable time and smart thinking:

- Seth Adams, Land Programs Director, Save Mount Diablo
- Mitch Avalon, Deputy Director, Contra Costa Public Works
- Kim Cox, Emergency Services Manager, Contra Costa Health Services
- Amy Dao, Sustainable Community Energy Manager, PG&E
- Deidra Dingman, Conservation Programs Manager, Contra Costa Department of Conservation and Development
- Lynda Deschambault, Executive Director, Contra Costa County Climate Leaders
- Will Dominie, Built Environment Program Specialist, Contra Costa Health Services
- Julie Haas-Wajdowicz, Environmental Resource Coordinator, City of Antioch
- Marcelle Indelicato, Senior Emergency Planner, Contra Costa County
- Carol Johnson, Planning Manager, City of Concord
- Michael Kent, Hazardous Materials Ombudsman, Contra Costa Health Services
- John Kopchik, Conservation Planner, Contra Costa Department of Conservation and Development
- Maureen Martin, Associate Water Resources Specialist, Contra Costa Water District
- Pat Roche, Principal Planner, Contra Costa Department of Community Development
- Margaret Romiti, Emergency and Volunteer Services Manager, City of Concord
- Maria Sanders, Environmental Analyst, City of El Cerrito
- Kevin Takei, Unit Manager, East Bay Regional Parks
- Tom Terrill, Contra Costa Council/East Bay Leadership Council