Regional Policy Background Papers – Fall 2012

DRAFT - Conservation and Open Space

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1. The Open Space Qualities of the Bay Area

The Bay Area possesses a unique network of natural habitat and water resources, agricultural land, and park lands that promote a strong regional economy and support Bay Area residents' health and quality of life. Natural habitats—including forests, grasslands, and coastal areas—deliver clean and reliable drinking water, clean air, and protection from disasters such as flooding, landslides, and climate change. Working farms and ranches offer affordable local food and support a $1.8 billion regional agriculture industry. Parks and recreational open spaces provide opportunities for outdoor activity, encouraging active, healthy lifestyles. This network contributes to the character of Bay Area rural communities, while also promoting a high quality of life in urban areas and adding to the region's economic competitiveness by attracting a talented workforce that encourages businesses to locate and stay here.

Over the past several decades, Bay Area local governments and regional agencies have succeeded in protecting many of these lands and waters through policies and partnerships that have drawn upon both public and private funds. Conservation receives strong support from the voters in the nine-county region: 93% agree that a clean, healthy, and vibrant San Francisco Bay is important for the region's economy; 72% regard the loss of open space as a concern.[1] Since 1988, Bay Area voters have approved more than $1.5 billion to improve water quality, create new parks, protect farmland, and preserve critical habitat through bond measures and tax increases.[2]

When compared to many other metropolitan areas, the Bay Area has excelled in its efforts to protect the natural environment. Still, the region's base of agricultural and habitat land is at risk of decline. The supply of clean water for fish, wildlife and humans can be diminished as streams are constrained, polluted, and dewatered. Habitat and corridors vital for healthy wildlife populations can be degraded or lost. Financial pressures contribute to the conversion of land critical to conserving biodiversity and providing food to urban uses. Where the region's next two million new residents live, work, and recreate will play a crucial role in determining the viability of these natural resources.

Regional planning strategies can help protect and maintain our natural habitat, water resources, agricultural land, and open space. Since 2007, local jurisdictions and regional agencies have worked together to establish nearly 200 Priority Development Areas (PDAs) and more than 100 Priority Conservation Areas (PCAs). PDAs are places with access to quality transit identified by jurisdictions as locations for future housing and jobs. PCAs are locally-selected lands critical to preserving the vitality of the region's ecosystem and rural economy. A coordinated approach that focuses a significant amount of future growth in PDAs can help reduce development pressure on PCAs, supporting the region's rural economy and complex ecosystem while increasing transit use, walking, and bicycling.

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[1] Fairbank, Maslin, Maullin, Metz & Associates, "Support for Funding the Restoration of the San Francisco Bay: Key Findings from a Regional Voter Survey," August 2010.

[2] Trust for Public Land, Land Vote from http://www.landvote.org retrieved on 8/21/2012.

Developing a regional planning strategy provides an opportunity to expand upon initial efforts that led to the identification of more than 100 PCAs by strengthening collaboration between regional agencies, local jurisdictions, and the non-profit and business communities around a comprehensive strategy for conservation of our natural environment. This paper highlights the region's conservation and open space network, explores opportunities to leverage regional plans and investments to achieve greater integration with ongoing conservation efforts, and presents concrete specific strategies for achieving this objective.

Success Through Partnership: The Bay Trail

The **San Francisco Bay Trail** is a visionary plan with wide public support for a bicycle and pedestrian trail allowing continuous travel around the shoreline of San Francisco Bay. In 1965, only four miles of bay shoreline were open to public access. Today, over 330 of the trail's 500 miles have been completed. When finished, the trail will link the shoreline of nine counties, passing through 47 cities and crossing seven toll bridges. It is a project of the Association of Bay Area Governments and funding for its administration is provided by the Metropolitan Transportation Commission.

The Bay Trail is a collaboration between elected officials, government agencies, private companies, non-profit organizations, advocacy groups and the public to increase access to the edge of the bay. It provides recreational opportunities for hikers, joggers and bicyclists; offers a setting for wildlife viewing and environmental education; attracts tourists to explore the region; and serves as a bicycle transportation corridor. The Trail provides access to points of historic, natural and cultural interest, and to numerous recreational areas, including over 130 parks.

The trail will not only encircle the Bay but will also provide access inland to open spaces and preserves, streams, and the Bay Area Ridge Trail, which forms the second of two concentric rings around the bay. Nearly 2.7 million people and 1.8 million jobs are within two miles of the trail, making it convenient not only for recreation but also for bicycling or walking to work – healthy, climate-friendly commute options that also relieve traffic.

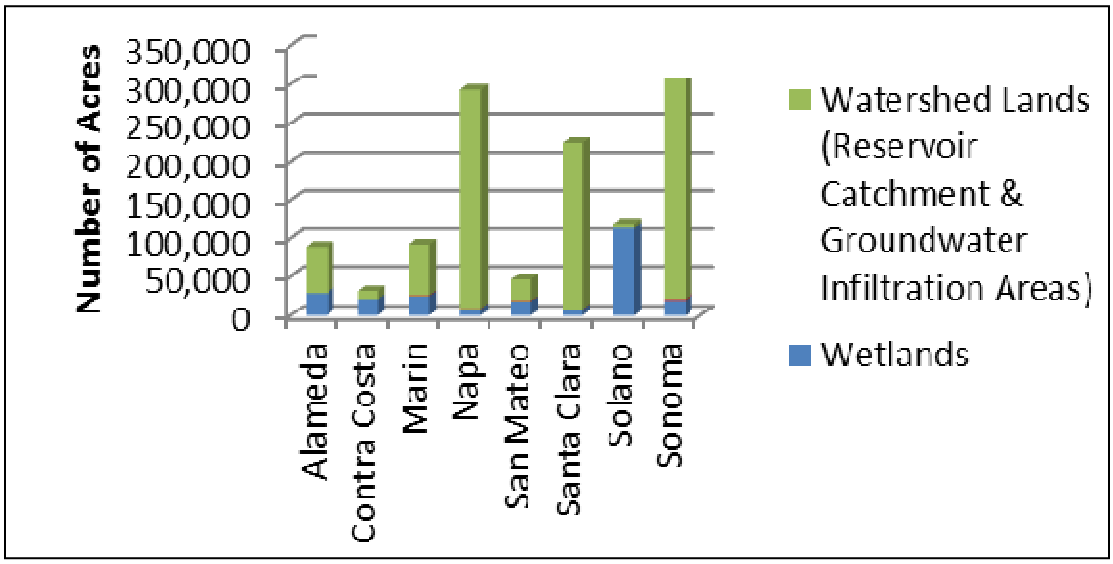
2. The Bay Area's Conservation and Open Space Network

The Bay Area's network of natural habitats, agricultural land, and open spaces is made up of a diversity of landscapes that act in concert to provide an array of ecological, economic, and social benefits. Collectively, these natural assets provide much of the region's food, sustain a clean and reliable water supply, store carbon in vegetation, improve community health, reduce damage from sea level rise and extreme weather events, and provide an array of other benefits.

2.1 Habitat and Water

The Bay Area's forests, grasslands, wetlands, and other natural habitats support 33% of the state's wildlife and plants and comprise a portion of the California Floristic Province, which is a globally recognized biodiversity hotspot.[3] Beyond their biological significance, natural habitats support necessary environmental functions on which residents and the regional economy depend.

Figure 1. Number of Acres of Water Resources by Bay Area County



- Intact natural lands provide clean drinking water for Bay Area residents by catching rainfall, filtering pollutants from the water, and recharging groundwater supplies. They also help to ensure clean water for coastal and marine ecosystems that sustain fisheries. The economic value of ecosystem services provided by wetlands, for instance, is

[3] Greenbelt Alliance, the Bay Area Open Space Council, and the Association of Bay Area Governments, "Golden Lands, Golden Opportunity: Preserving vital Bay Area lands for all Californians," 2009; Myers, N. et al. *Nature* 403 (2000): 853–858.

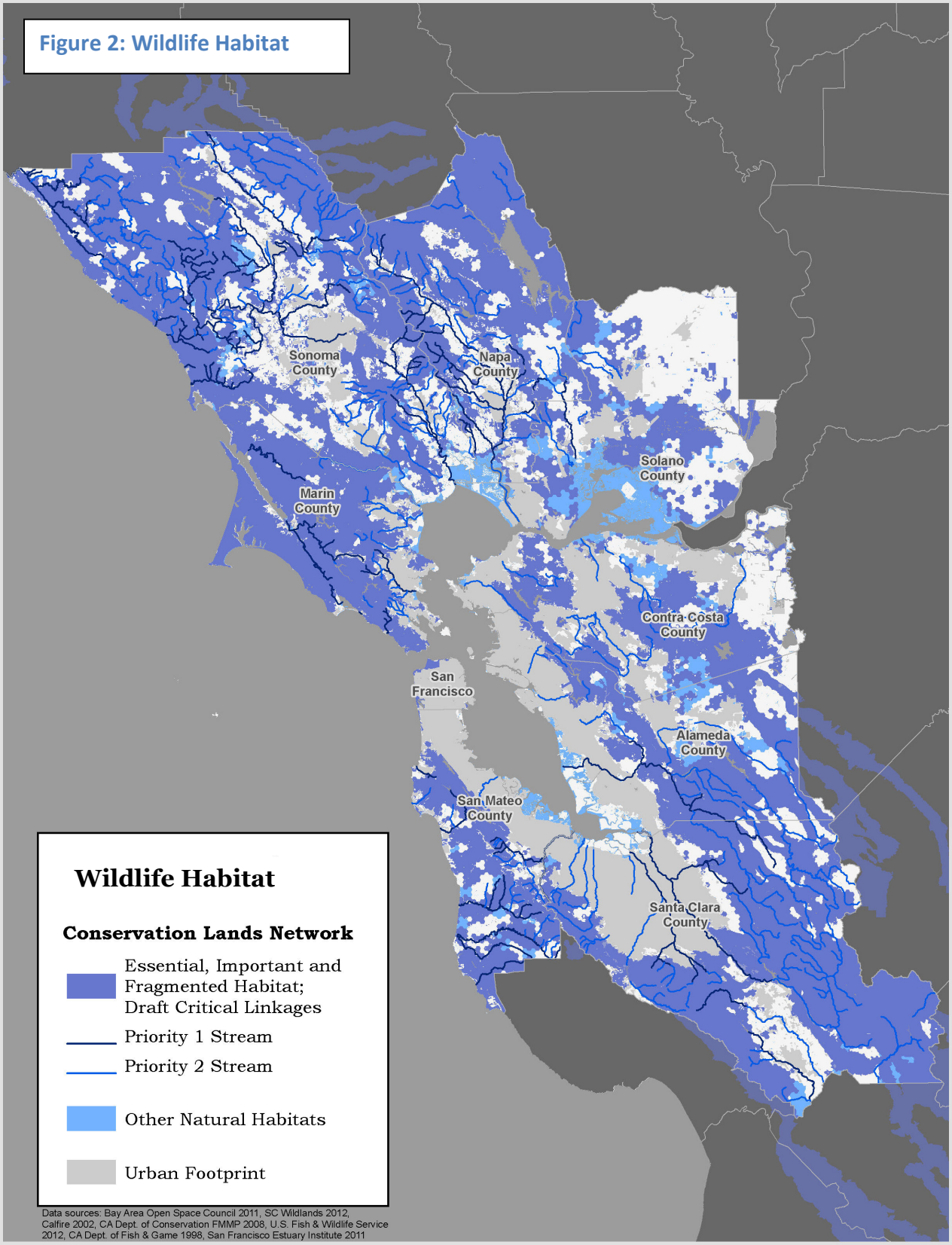


Figure 2: Wildlife Habitat
Sonoma County
Napa County
Solano County
Marin County
Contra Costa County
San Francisco
Alameda County
San Mateo County
Santa Clara County
Wildlife Habitat
Conservation Lands Network
Essential, Important and Fragmented Habitat; Draft Critical Linkages
Priority 1 Stream
Priority 2 Stream
Other Natural Habitats
Urban Footprint
Data sources: Bay Area Open Space Council 2011, SC Wildlands 2012, Calfire 2002, CA Dept. of Conservation FMMP 2008, U.S. Fish & Wildlife Service 2012, CA Dept. of Fish & Game 1998, San Francisco Estuary Institute 2011

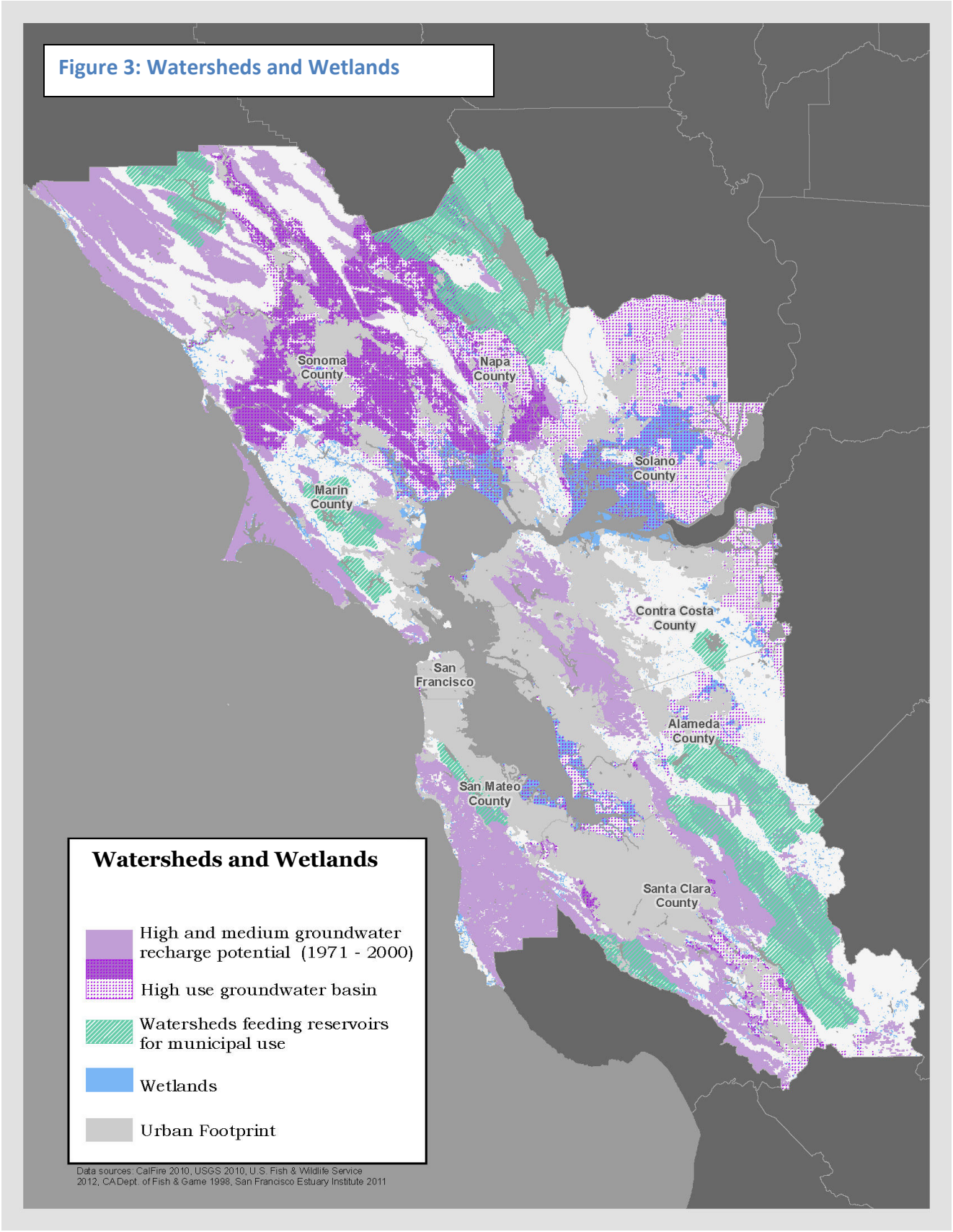


Figure 3: Watersheds and Wetlands
Sonoma County
Napa County
Solano County
Marin County
Contra Costa County
San Francisco
Alameda County
San Mateo County
Santa Clara County
Watersheds and Wetlands
High and medium groundwater recharge potential (1971 - 2000)
High use groundwater basin
Watersheds feeding reservoirs for municipal use
Wetlands
Urban Footprint
Data sources: CalFire 2010, USGS 2010, U.S. Fish & Wildlife Service 2012, CA Dept. of Fish & Game 1998, San Francisco Estuary Institute 2011

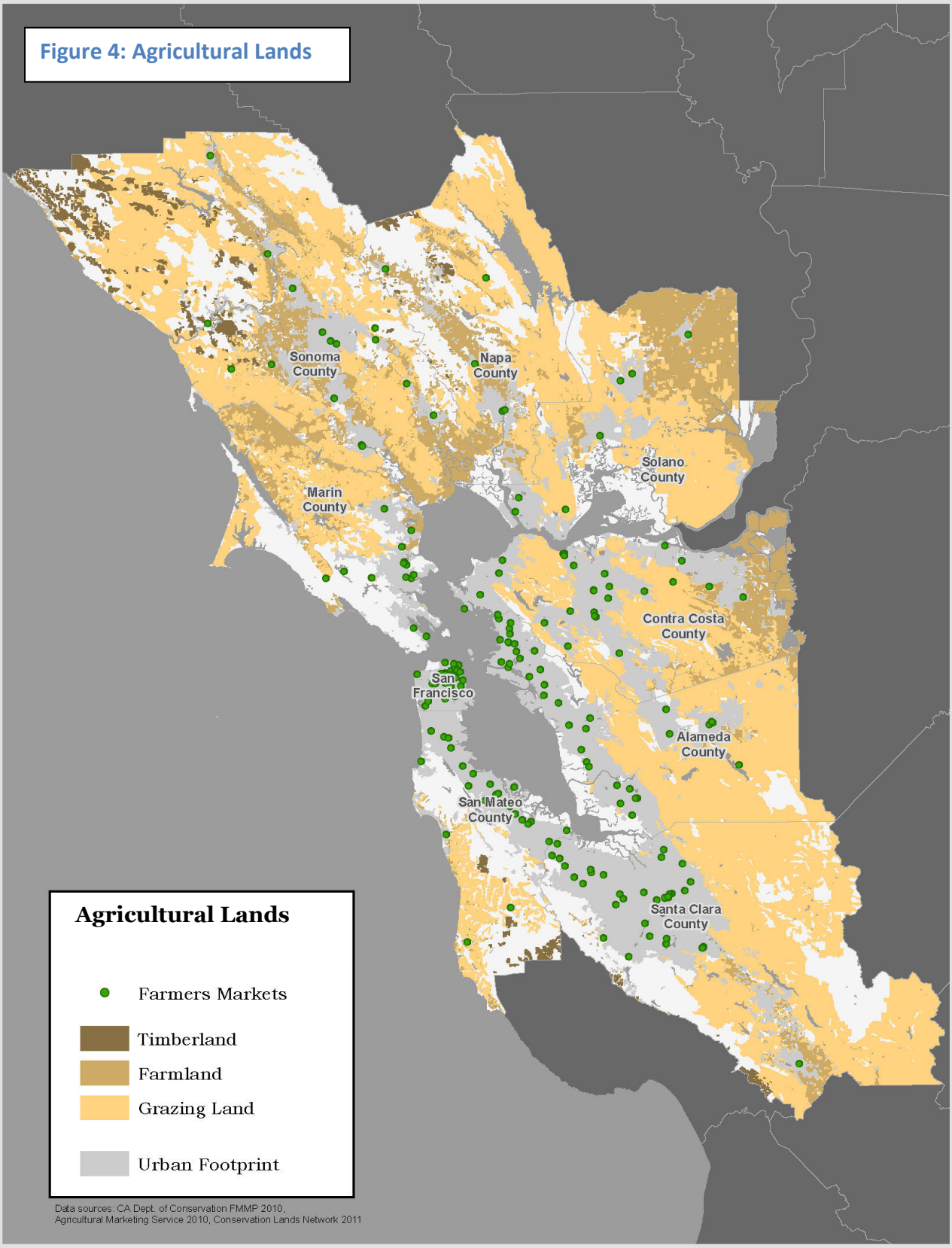


Figure 4: Agricultural Lands
Sonoma County
Napa County
Solano County
Marin County
Contra Costa County
San Francisco
Alameda County
San Mateo County
Santa Clara County
Agricultural Lands
Farmers Markets
Timberland
Farmland
Grazing Land
Urban Footprint
Data sources: CA Dept. of Conservation FMMP 2010,
Agricultural Marketing Service 2010, Conservation Lands Network 2011

significant. Scholars have estimated the annual value of tidal wetlands in Napa County to exceed $8 million and the value of freshwater wetlands to exceed $19 million. The Bay Area's natural habitats also help curb and mitigate the impacts of climate change. Natural habitats decrease and mitigate flooding events by distributing water to the landscape where it can be absorbed into the ground. Combined, conservation lands in the Bay Area store nearly 25 million metric tons of carbon aboveground tree and shrub biomass, the equivalent to avoiding the carbon dioxide emissions of over 17 million cars annually.

Natural habitats sustain an array of plant and animal life. Local organizations, in conjunction with scientists, have identified Bay Area lands that are most essential to maintaining biological diversity—the variation of life at all levels that is crucial for human health and wellbeing—with the goal of creating a Conservation Lands Network (CLN). If protected from development, this CLN can help to support a number of plant and animal species, as well as maintain migratory routes and provide buffers against anticipated climate change effects.

Natural habitats also function as "green infrastructure"—natural features that perform services typically accomplished with built infrastructure such as flood control, water filtration, and water storage, providing viable, cost-effective and resource-efficient alternatives to traditional "grey" infrastructure. The City of Martinez, in partnership with the East Bay Regional Park District and Caltrans, recently implemented an innovative green infrastructure project that involved enhancing the Martinez marsh in order to alleviate flooding in downtown Martinez. Although these watershed lands and wetlands are critical to maintaining a supply of clean water, many acres are unprotected, including a large number in Napa and Sonoma Counties.

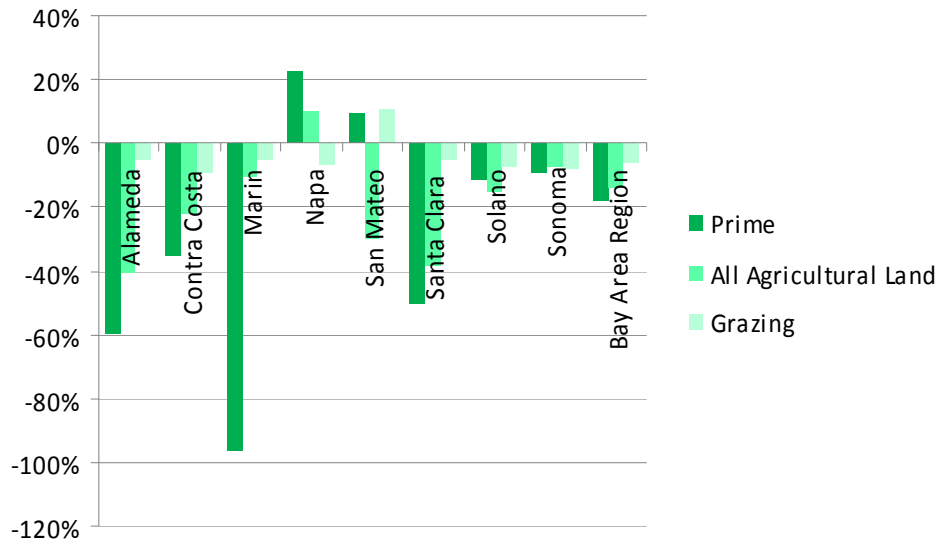
2.2 Agricultural Lands

Agricultural lands include farms that produce a variety of food and provide space for livestock to graze. The Bay Area's agricultural lands result in over $1.8 billion of crop production value annually and generate nearly 25,000 jobs—including 8.2% of jobs in Napa County and 3.7% in Sonoma County.[4] These lands offer additional economic benefits through the activities that accompany agriculture, such as food processing and food-related tourism. Napa and Sonoma Counties attract business conventions to the Bay Area, as participants can complement their business travel with trips to the counties' premier vineyards. Taking into account these broader impacts, the estimated annual economic benefit of agriculture in the region is over $5.5 billion.[5] Agricultural lands are an integral part of the region's infrastructure network, dependent on road and rail access to markets within the Bay Area's urban areas and outside of the region. In addition, working lands support the region's watershed by allowing water infiltration into the groundwater storage system, contribute to flood control, and absorb greenhouse gas emissions.

[4] Crop Reports, Bay Area Counties, 2010 and 2011; US Census 2010

[5] Crop Reports, Alameda and Contra Costa Counties, 2010. These counties determined that the total economic impact of agricultural production is three times the gross production value.

Figure 5: Change in Agricultural Land, Bay Area: 1984-2008



Source: CA Department of Conservation, Farmland Mapping and Monitoring Program (FMMP), 2008.

Despite its continued positive economic impact, the region's agricultural land base is declining. Between 1984 and 2008, acreage of prime farmland[6] fell by 18% and total acreage of agricultural land fell by 8%.[7] This trend was most pronounced in Alameda and Marin Counties, which saw reductions in prime farmland of 60% and 96% respectively. Sonoma County, which has the highest value of agricultural production, lost 9% of its prime farmland during this period and 8% of its total agricultural land. Napa, the county with the second highest value of agricultural production, is the only county in the Bay Area to gain prime farmland, which increased by 23% (total agricultural land fell by 2%). One positive trend across much of the region is the expansion of unique farmland, which is of lesser soil quality than prime farmland or farmland of statewide importance, but is used to produce many of the state's leading crops; acreage in this category increased in every county except Solano, and more than doubled in Alameda, Marin, Santa Clara and Sonoma Counties.

The region's loss of agricultural land is due primarily to conversion to urban uses, particularly residential development. Napa's success in preserving prime farmland—as well as less productive but important and unique farmland—was supported by voter adoption of the Agricultural Lands Preservation Initiative (Measures J and P), which prevented the re-

[6] Farmland with the best combination of physical and chemical features able to sustain long term agricultural production. http://www.conservation.ca.gov/dlrp/fmmp/mccu/Pages/map_categories.aspx retrieved on 9/21/2012.
[7] California Department of Conservation, Farmland Mapping and Monitoring Program 2008.

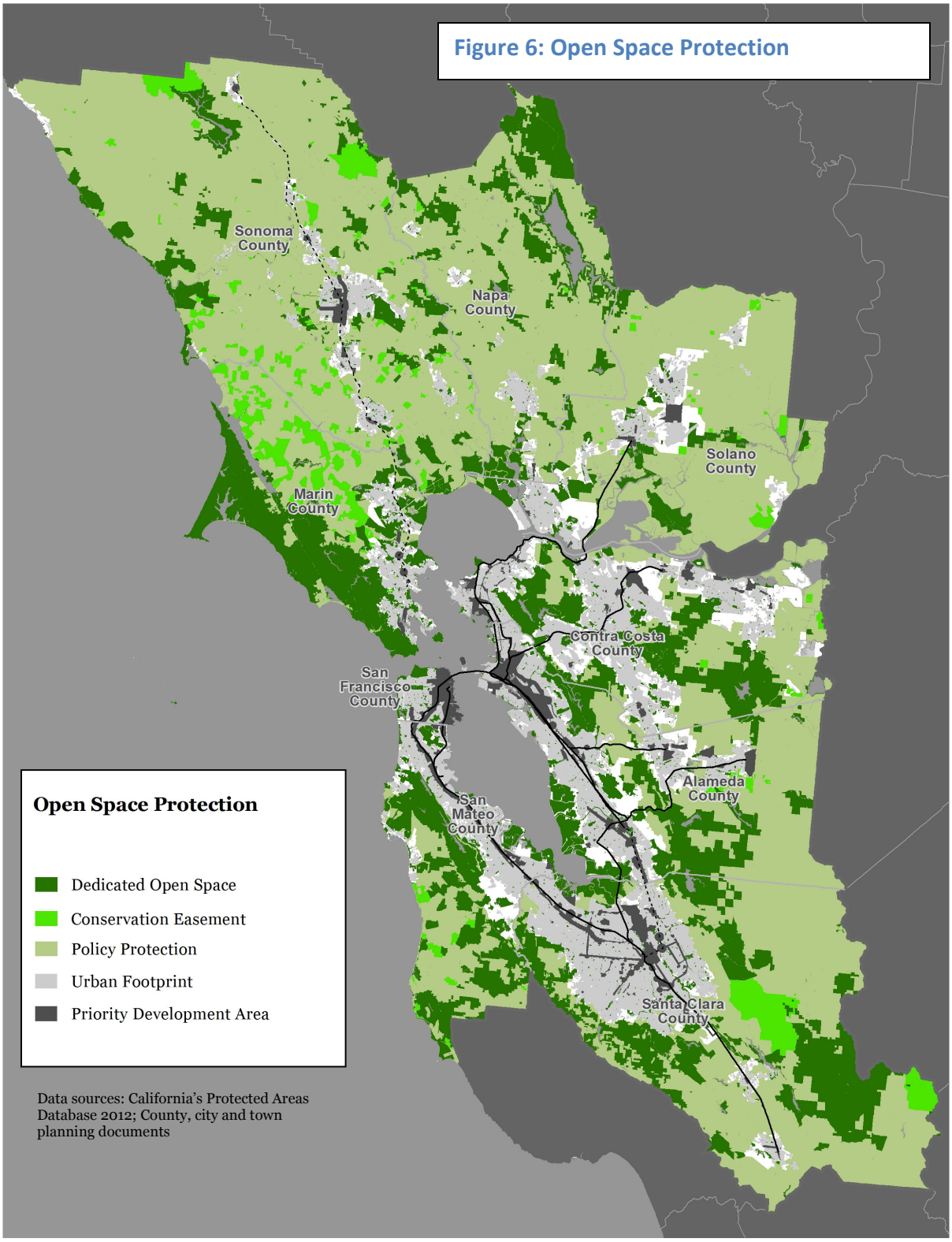


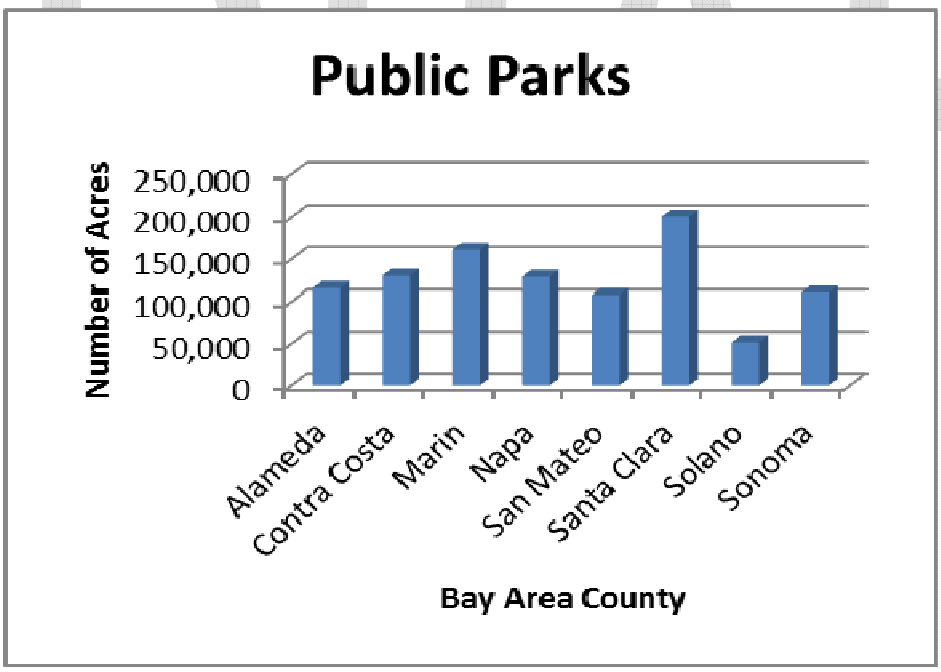
Figure 6: Open Space Protection
Sonoma County
Napa County
Solano County
Marin County
Contra Costa County
San Francisco County
Alameda County
San Mateo County
Santa Clara County
Open Space Protection
Dedicated Open Space
Conservation Easement
Policy Protection
Urban Footprint
Priority Development Area
Data sources: California's Protected Areas Database 2012; County, city and town planning documents

designation or subdivision of agricultural or watershed lands or subdividing them without voter approval.

2.3 Open Space and Parks

The Bay Area has an extensive network of regional parks, trails and open space, including 587,837 acres (an area the size of 578 Golden Gate Parks) of publicly accessible land.[8] This network has helped shape the region's identity as a place of natural beauty, active lifestyles and recreational opportunities. In addition to improving individual and community health, the region's parks and open spaces capture greenhouse gas emissions and yields regional and local economic benefits. State parks attract nearly 10 million visitors annually across the region, while the Golden Gate National Recreation Area attracts 14 million visitors—many of them tourists that help bolster the region's economy. Open spaces and parks run by regional park districts attract millions more and provide additional economic benefits. The East Bay Regional Park District estimates that park visitors spend $254 million each year on durable and non-durable goods.[9]

Figure 7: Park Acreage by Bay Area County



The expansion the Bay Area's park and open space network illustrates the potential for stakeholders and public agencies to work together to support voter initiatives and programs to

[8] California Protected Area Data Base, Jan 2012; US Census Block Level 2010.
[9] East Bay Regional Park District," Quantifying our Quality of Life: An Economic Analysis of the East Bay's Unique Environment," 2000.

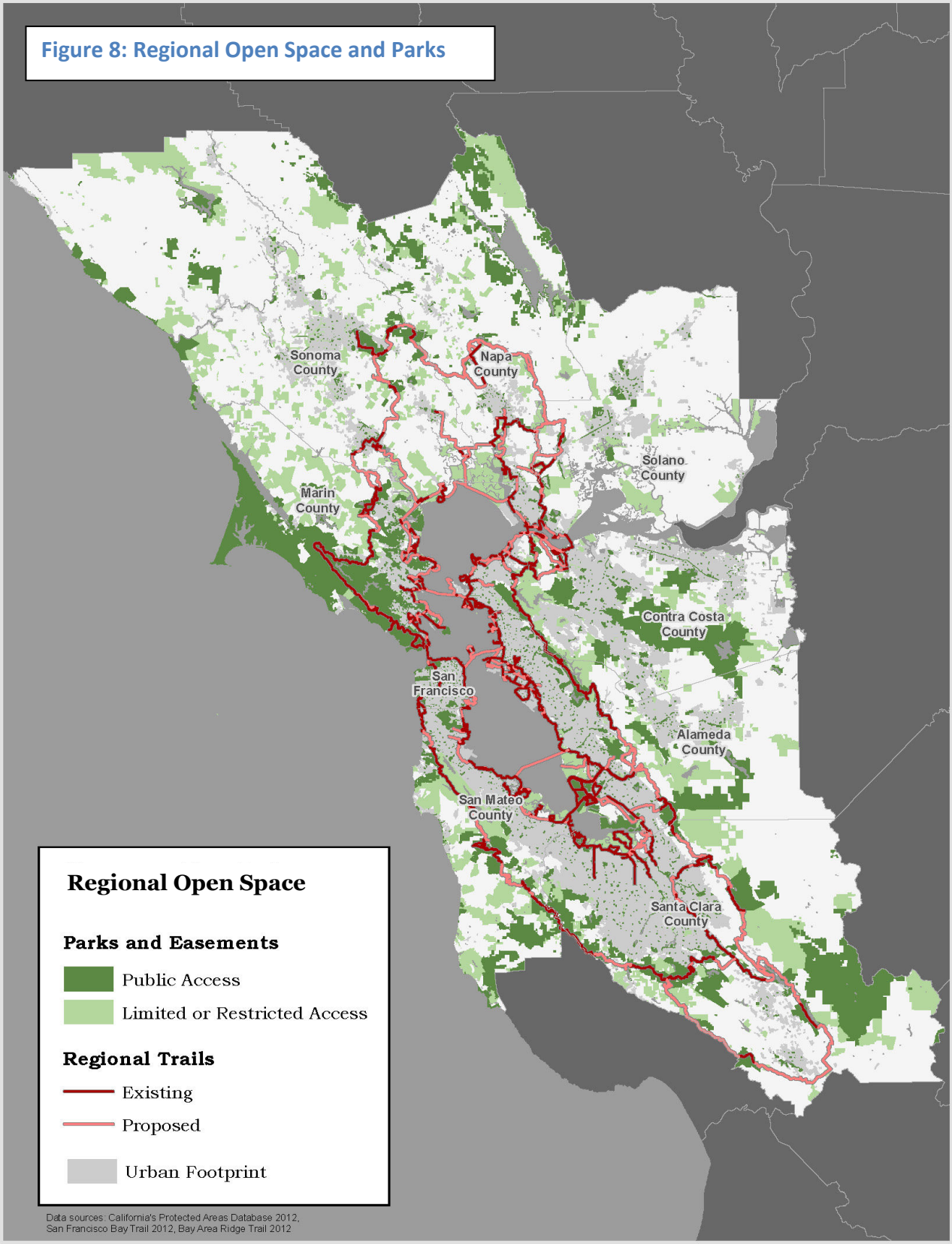


Figure 8: Regional Open Space and Parks
Sonoma County
Napa County
Solano County
Marin County
Contra Costa County
San Francisco
Alameda County
San Mateo County
Santa Clara County
Regional Open Space
Parks and Easements
Public Access
Limited or Restricted Access
Regional Trails
Existing
Proposed
Urban Footprint
Data sources: California's Protected Areas Database 2012, San Francisco Bay Trail 2012, Bay Area Ridge Trail 2012

acquire land to complete regional park and open space networks. In addition to acquiring new parkland, the region also has made significant progress toward completion of the Bay Trail and the Ridge Trail. This tradition of collaboration can be leveraged to increase the amount of green space in communities that currently lack trees and neighborhood parks. Many low-income communities have significantly fewer acres of parkland per resident and dramatically fewer trees than wealthy neighboring communities. In some neighborhoods, residents have developed their own public and semi-public greenspaces. Innovative, grassroots efforts to expand the amount of greenspace in low-income neighborhoods have transformed vacant lots and other neglected areas into parks, community gardens, and playgrounds. Supporting these organic efforts and recent efforts by state and federal agencies to increase the urban tree canopy[10] could provide significant benefits at a relatively low cost.

This collaborative approach to parks and open space planning has helped shape new development as well. Coordination between stakeholders, local governments, and state and federal agencies led to an adopted plan for the Concord Naval Weapons station that focuses future homes and workplaces around convenient transit service, preserving 60% of the site for green spaces ranging from community gardens to a 2,500 acre addition to the East Bay Regional Park District. In addition, recent plans for development around transit stations and traditional downtowns have set aside land to fill in gaps in regional trail and open space networks.

3. Strategies to Preserve and Strengthen our Open Space Network

Regional agencies have played an important role in supporting the preservation and expansion of the region's conservation and open space lands. The most successful examples of regional agency involvement have grown out of partnerships with non-profit organizations, other public agencies, and stakeholder groups with an ongoing involvement in conservation activities. In some cases, a regional agency has taken on a leadership role. Planning for the Bay Trail, for example, is led by ABAG with funding from MTC. Priority Conservation Areas, developed through the FOCUS program, are another example of a regionally-led program closely linked to a network of government, non-profit, and private sector partnerships. PCAs were selected by the region's jurisdictions based upon both local priorities and the wealth of research and planning conducted in the region to identify lands with the greatest ecological, recreational and economic value. Building upon the identification of PCAs over the past 5 years, the One Bay Area Grant (OBAG) directs $10 million in competitive funds to support PCAs.

Strategy 1: Updated Priority Conservation Area (PCA) Framework

Working in partnership with local jurisdictions, state agencies, special districts, and stakeholder groups, regional agencies will refine the definition of Priority Conservation Areas in supporting regional efforts to protect valuable agricultural, habitat, and open space lands, and to preserve and expand urban green spaces.

[10] http://www.marinij.com/ci_21505045/gauge-neighborhood-wealth-look-trees, accessed 9/21/2012

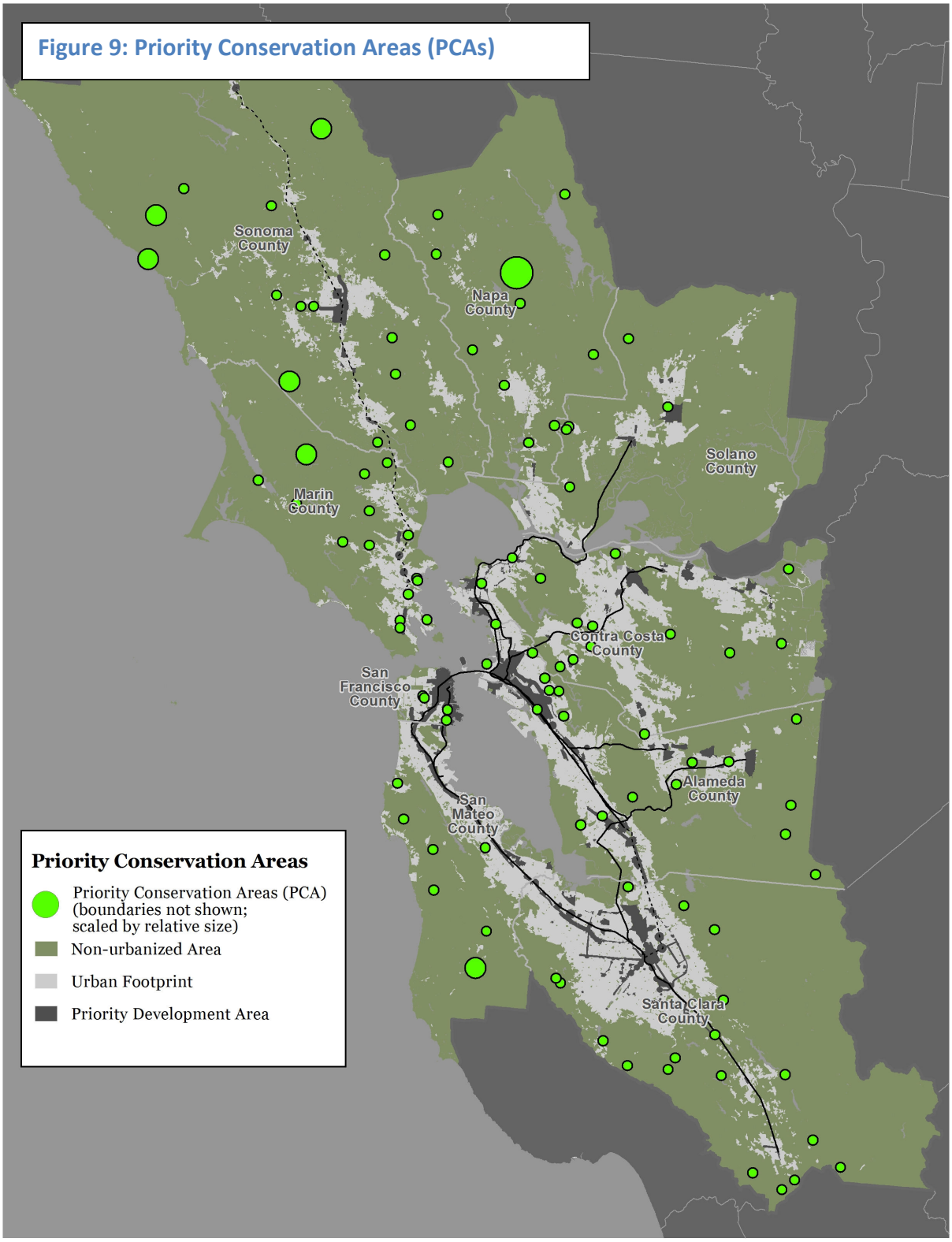


Figure 9: Priority Conservation Areas (PCAs)

The strategy could explore opportunities to:

- Link the identification, funding and preservation of PCAs to ongoing regional initiatives led by public agencies and non-profit organizations—including opportunities for joint funding of both acquisition and planning activities. The impact of regional funds for PCAs could be increased by partnering with existing state and non-profit efforts to acquire and preserve land; identifying these opportunities could set the stage for a more robust, coordinated long-range approach to regional open space planning.

- Revise the PCA framework to provide greater specificity about the qualities and function of different types of PCAs. Currently, only a single category exists for the region's 106 PCAs. The regional agencies and working group could investigate the development of a set of PCA Types that would play a similar role as PDAs by identifying the unique role of different kinds of PCAs in preserving and enhancing the region's natural habitat, agricultural, and open space. This would help communicate the quality of the PCAs to community members, and identify the interrelationships between different PCAs as well as the built environment. Combined with data about the specific benefits of each PCA, the Types would help prioritize planning and investment.

- Gather data and make it accessible. To support implementation of the PCA framework, ABAG can review and integrate into the regional spatial database the wealth of available data related to the habitat and water, agricultural land, and open space—including policies and other incentives applicable to these areas. In tandem with the Area Types, this expanded database would help inform local and regional decisions about the prioritization of different PCAs. The database could be available online and be updated as new information becomes available. Links could be provided to the data sources of different map layers to provide transparency. Ongoing efforts by state and regional scientists can provide the basis for identifying, compiling, and reviewing data to include in the database.

Strategy 2: Regional Farmland Protection Plan

A regionally coordinated plan to preserve the Bay Area's agricultural land and support farmers could strengthen the vitality of rural economies and communities, while also improving the long-term resilience of the region's food supply and helping to mitigate the impacts of climate change and sea level rise. This effort would complement the Regional Prosperity Plan currently underway by providing a greater level of analysis on the unique challenges and opportunities facing the region's rural communities.

This strategy could involve:

- Identifying the role of existing and potential PCAs in supporting preservation of valuable at-risk agricultural lands, and exploring opportunities to link these efforts.

- Developing and disseminating model zoning and regulatory elements for jurisdictions, such as agricultural enterprise zones, on-farm value added facilities (i.e. commercial kitchen), worker housing, and expanding ag-tourism by allowing visitors to interact and engage with farmlands more directly.
- Providing guide/policy on best practices for allowing groundwater recharge, carbon sequestration, and wildlife movement.
- Facilitating policies that allow delivery of local produce to local schools, hospitals and market stores.
- Exploring options for creating an entity to coordinate across the counties and subsectors of agriculture. This entity should be attentive to how the entire food system functions and be strategic in its engagement.

Strategy 3: Regional Advance Mitigation Program (RAMP)

A regional advance mitigation program is an emerging approach to infrastructure development that aims to expedite project delivery, reduce risk and create certainty for the infrastructure agency, as well as delivering more effective conservation of our natural resources by bundling mitigation needs of multiple projects and funding mitigation projects at a larger, more effective scale and tied to regional conservation priorities. This approach has been applied successfully by the San Diego Association of Governments and the Orange County Transportation Authority. State infrastructure (Caltrans and Department of Water Resources) and state and federal resource agencies (Department of Fish and Game, U.S. Fish and Wildlife Service, Army Corps of Engineers and U.S. Environmental Protection Agency) are engaged in developing a statewide RAMP framework. Developing a regional program in the Bay Area could involve:

- Analysis and integration of regional spatial data, planned projects, and analyses, including:
    - A list of transportation and potentially other projects expected to be developed over ten to twenty years, drawn initially from the 2035 RTP
    - An analysis that indicates the range of estimated mitigation needs of identified projects
    - A defined list of conservation priorities in a landscape that reflects the mitigation needs
    - Potential options for mitigation actions.
- Integration of the mitigation needs (or "mitigation demand") with the conservation priorities (or "mitigation supply") to determine the most effective mitigation actions to meet the goals. The mitigation demand can be drawn from RTP and additional projects identified by Congestion Management Agencies. The mitigation supply can be drawn

from existing data that incorporates conservation and working lands priorities (e.g., Conservation Lands Network).

- Identifying options for the scope and scale, governance framework of a RAMP, financial and funding structure, and involvement of regulatory agencies. Preliminarily, a list of partners in the RAMP framework could include: ABAG and MTC; infrastructure agencies (e.g. Caltrans, CMAs); resource agencies (e.g. Coastal Conservancy, US EPA); conservation agencies and organizations (e.g. special districts, Bay Area Open Space Council); scientific researchers; and non-profit organizations representing business, equity, conservation, and other stakeholder groups.