A guide for protecting open space and livable communities

SANTA CLARA VALLEY GREENPRINT





OPEN SPACE AUTHORITY
SANTA CLARA VALLEY

THE SANTA CLARA VALLEY GREENPRINT

A guide for protecting open space and livable communities

March 27, 2014

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The Santa Clara Valley Open Space Authority
conserves the natural environment, supports agriculture, and connects people to nature, by protecting open spaces, natural areas, and working farms and ranches for future generations.

OpenSpaceAuthority.org

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Table of Contents

Foreword **1**

Executive Summary **3**

CHAPTER 1 Introduction **7**

The Santa Clara Valley 7
The Open Space Authority: A Legacy of Conservation 8
A Vision for the Valley 10
The *Valley Greenprint* 12

CHAPTER 2 The *Valley Greenprint*: An Integrated Approach to Conservation **13**

Greenprint Development Process and Relationship to Other Plans 14
Conservation Goals and Strategies 15
Key Findings From the *Valley Greenprint* Analysis 17

CHAPTER 3 Wildlands and Natural Areas **19**

Goal and Guiding Principles 19
Figure 3: Land Cover 20
Important Areas for Wildlands and Natural Areas Conservation 21

CHAPTER 4 Water Resources **37**

Goal and Guiding Principles 37
Important Areas for Water Resource Conservation and Stewardship 38

CHAPTER 5 Farms, Ranches, and Other Working Lands **47**

Goal and Guiding Principles 47
Important Areas for Farms, Ranches, and Other Working Lands 50

CHAPTER 6 Recreation and Education **59**

Goal and Guiding Principles 59
Parks and Open Space for Recreation and Education 60
Urban Open Space Program: Connecting Communities to Nature 63

CHAPTER 7 Conservation Focus Areas **73**

CHAPTER 8 Implementation and Next Steps **85**

Strategic Planning 85
Integrated Conservation Actions 86

Acknowledgments **89**

References **93**

Appendix **97**

Glossary **99**

Figures and tables

Figure 1: **Open Space Authority Jurisdiction** 9
Figure 2: **Santa Clara Valley Greenprint** 16
Figure 3: **Land Cover** 20
Figure 4: **Rare Natural Communities and Habitats** 24
Figure 5: **Wildlife Habitat Connectivity** 29
Figure 6: **Climate Change Resilience** 32
Figure 7: **Water Supplies and Recharge** 39
Figure 8: **Flood Risk and Water Quality** 41
Figure 9: **Farms, Ranches, and Other Working Lands** 49
Figure 10: **Farmland Conservation Assessment** 51
Figure 11: **Current and Future Planned Open Space and Trails** 61
Figure 12: **Scenic Viewsheds** 67
Figure 13: **Conservation Focus Areas** 72

Table 1: **Protection of vegetation types within the Authority's jurisdiction** 22
Table 2: **Impaired water bodies of Santa Clara County and pollutant type** 43

Foreword

Rob Perica

Andrea Mackenzie,
General Manager

The beauty and diversity of our open space, natural areas, parks, and wildlife inspire us. Protecting these places for our own enjoyment and well-being is a high priority for our citizens. Increasingly, there are even more compelling reasons to protect and sustain our natural lands. Nature's complex support systems sustain all living beings, great and small, and provide essential services of clean air, clean water, flood protection, local food, and resilience to a changing climate.

In this 20th anniversary year, the Open Space Authority has created an ambitious *Valley Greenprint* that outlines a conservation vision for the Santa Clara Valley that will direct our land protection and stewardship efforts for coming decades. Our approach to protecting wildlands, natural areas and biodiversity is multifold. We work with our partners to protect, restore, and manage an interconnected system of natural areas with critical linkages to allow species to move through an increasingly fragmented landscape. We maintain the health of natural areas to help both human and natural communities respond and adapt to a changing climate.

Sixty-five years ago, Aldo Leopold, one of the nation's pioneering conservationists, wrote what would become one of America's seminal conservation classics – *A Sand County Almanac*. In reflecting on man's increasing impact on nature, Leopold wrote, "The last word in ignorance is the man who says of an animal or plant 'What good is it?'…. To keep every cog and wheel is the first precaution of intelligent tinkering." (Leopold 1949)

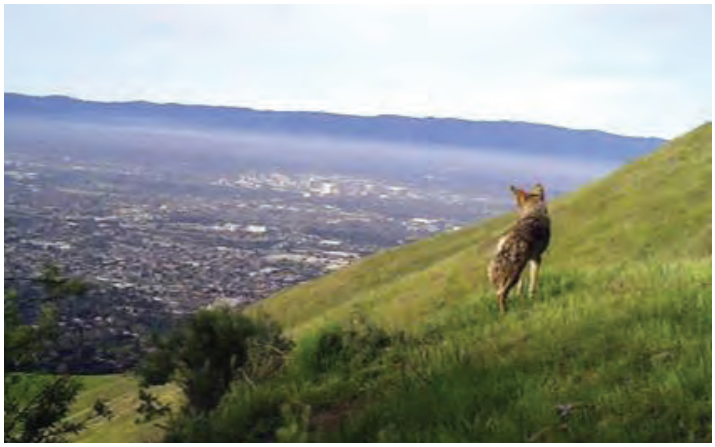
In the decades that have followed, an unprecedented loss of biodiversity has occurred, principally due to habitat destruction. Despite passage of federal and state endangered species laws and the setting aside of parks and open space preserves, we are witnessing an irreversible loss of our natural heritage and information that could be key to unknown medical and scientific breakthroughs.

Mark Tercek, President and CEO of The Nature Conservancy and a former investment banker, has co-written *Nature's Fortune: How Business and Society Thrive by Investing in Nature* (Tercek and Adams 2013). Tercek writes that saving special place by special place as the sole conservation strategy will not be enough anymore. We need to look holistically at land stewardship and maintaining resource health across jurisdictions, on both public and private lands. Our land use policies and economic investments must increasingly support the health of natural systems upon which our own well-being and the strength of our economy depend. "The breakthrough insight," Tercek writes, "is when companies recognize that the services they rely on from nature but heretofore took for granted and got for free, such as clean water and flood protection, will be neither guaranteed nor free in the coming years."

Here in Silicon Valley, a center for innovation in the fastest-growing region in the state, the Open Space Authority is committed to partnering with public and private agencies and organizations alike to ensure the health, safety, and stewardship of our water resources, wildlife habitats, farmland, and open spaces. It is not only our obligation; it is the legacy we leave to the next generation.

Executive Summary

Santa Clara County is renowned for its vast, beautiful open space, unique natural areas, and productive farms and ranchlands, along with its innovative technology industry and dynamic economy. With species and habitats unique to the region, its abundant natural resources have long made the region desirable for both residents and visitors. These open spaces and wildlands serve as our natural capital. They provide clean air, fresh water, natural flood protection, and unparalleled opportunities for recreation – and are essential to the area's sense of place and quality of life.



Open Space Authority wildlife cam

The Santa Clara Valley's spectacular wildlands provide abundant habitat and natural resources and are essential to our region's sense of place and quality of life.

This rich natural heritage and vibrant economy have also made Santa Clara County the fastest-growing county in the Bay Area. A burgeoning population and steady development pressures, along with a changing climate, pose new threats to the health and sustainability of the region.

These challenges require the Santa Clara Valley Open Space Authority to be resourceful, innovative, and effective in the protection of open space. The Open Space Authority's vision for this spectacular region is one of livable communities, a vibrant economy, healthy urban areas, protected, beautiful open space, and sustainable ecosystems.

To create a guide toward this vision, the Authority has developed the *Santa Clara Valley Greenprint*. A 30-year roadmap for the Authority, the *Valley Greenprint* identifies goals, priorities, and strategies for land conservation – and highlights opportunities for partnerships and funding to support these efforts.

The *Valley Greenprint* was developed over an 18-month period with input from more than 100 conservation partners, subject-matter experts, Authority staff and board members, the Citizens Advisory Committee (CAC), and other community members. In a collaborative, iterative process, this group identified a set of four compelling conservation goals that will serve as a long-range guide for the Authority's future efforts to ensure that the Santa Clara Valley continues to be an exceptional place to live and work.

Santa Clara Valley Open Space Authority Conservation Goals

1. Protect and manage an interconnected system of wildlands and natural areas to support native habitats and species and to ensure resilience to a changing environment.
2. Protect and restore water resources to benefit local communities and the environment.
3. Conserve farms, ranches, and working landscapes to sustain the economic and environmental viability of agriculture in the County.
4. Protect and manage an interconnected network of open space lands that provide opportunities for nature-based recreation and education for all residents.

Using cutting-edge Geographic Information System (GIS) tools and conservation science, the Open Space Authority has collected and mapped data on important natural and agricultural resources. The *Valley Greenprint* identifies important conservation priorities and open space projects for each of four major themes – wildlands and natural areas; water resources; farms, ranches, and other working lands; and recreation and education. By overlaying these resource-rich areas with threats to open space as well as opportunities for protection, the *Valley Greenprint* team identified 10 areas where strategic conservation and restoration can most effectively protect the region's richest and most complex landscapes.

These 10 Conservation Focus Areas (Figure 13) represent the most important landscapes for the protection of natural resources, working lands, and livable communities throughout the Authority's jurisdiction – and will be where the Authority focuses efforts in the coming decades.

Open Space Authority Conservation Focus Areas

(Figure 13)

1. Baylands
2. Upper Penitencia Creek / East Foothills
3. Upper Alameda Creek
4. Coyote Ridge
5. Coyote Valley
6. Upper Coyote Creek
7. Southern Santa Cruz Mountains
8. Sargent Hills
9. Upper Pajaro River
10. Pacheco Creek

Protecting open space in these and other important landscapes also helps preserve the many important services that nature provides. These services or benefits include water supply, filtration, and storage, moderation of flood risk, and carbon sequestration – all services that can reduce public costs for water supplies, stormwater management and water treatment, and responding to climate change.

In addition, through its Urban Open Space Program the Authority has long invested in parks and trails located within cities so that residents can enjoy the benefits of nature close to home. The *Valley Greenprint* highlights the importance of the Authority's partnerships with

Derek Neumann

Scenic Coyote Ridge is one of the Open Space Authority's ten Conservation Focus Areas.

Kathy Korbholz

The Conservation Focus Areas identify areas with multiple conservation values, including habitat for sensitive species.

the cities and county to complete critical projects within urban areas, and identifies elements of a strengthened Urban Open Space program. In urban areas, the Authority will support vibrant, livable communities by seeking new funding and partnerships with cities to complete projects that connect people to nature. And continued public engagement, education, and the development of broad-based support for conservation will be key to all of the Authority's work to encourage healthy lifestyles, healthy communities, and inspiring the next generation of land stewards and environmental leaders.

Importantly, the *Valley Greenprint* also identifies innovative integrated actions and tools for effective long-term conservation. The *Valley Greenprint*'s GIS tools will allow the Authority to continue to refine decisionmaking based upon the best available science and emerging trends, and to refocus efforts where they will be most effective.

The Authority will begin implementing the principles and strategies identified in the *Valley Greenprint* through a series of strategic implementation plans that will identify specific high-priority initiatives and actions. These plans will serve as the foundation of the Authority's annual work plans and related budgets.

The Authority will look to develop additional funding sources for land acquisition, stewardship, and educational and recreational projects, pursuing new funding sources and tools. By protecting natural capital and ecosystem services, the Authority can help ensure healthy landscapes, healthy communities, and a healthy economy. Similarly, protecting and restoring green infrastructure can reduce the need for expensive stormwater management projects and can help reduce risks from impacts related to climate change. The Authority will also continue to work to document the environmental and economic benefits of investing in natural capital and green infrastructure.

Future work will also include conserving agricultural lands and other working landscapes; the Authority's role here will include support for policy, incentives, and stewardship practices that can make working lands viable and affordable. In these and other realms, partnerships and collaboration to leverage funding and coordinate strategy will be critical for long-term effectiveness.

With these goals, Conservation Focus Areas, and innovative approaches as a guide, the Open Space Authority can best leverage efforts and funding to protect open space. The *Valley Greenprint* will inform the Authority's planning and actions for the next 30 years, and will be a guide for protecting the stunning landscapes, recreational open space, and farms and ranchlands that make the Santa Clara Valley so special.

CHAPTER 1 Introduction

The Santa Clara Valley

The distinctive Santa Clara Valley is bordered by the Santa Cruz Mountains on the west and the Diablo Range to the east. The Valley, known by some as "Valley of Heart's Delight," was once among the most productive farming areas in the country, with flowering orchards producing plums, apricots, walnuts, and more. Until the 1960s, its fruit production and packing industries were the largest in the world, and several generations of workers made their livelihood in the fields picking the fruits, or in the packing and canning rooms in and around the city of San Jose. In the 1960s and '70s, the orchards were felled as the tech industry blossomed and a housing boom erupted to accommodate the influx of tech workers and their families.

Today, the Santa Clara Valley is home to Silicon Valley, a global technology hotspot for industry leaders such as Cisco, Google, Apple, eBay, Yahoo, and Facebook. World-class educational institutions and venture capital firms foster startup companies, which also contribute to the region's vibrancy. A moderate Mediterranean climate and easy access to beautiful open space lands heighten the Valley's appeal. The natural landscapes of rolling hills, native grasslands and riparian forests provide essential services, including clean air and much of the area's water supplies. Open space lands provide habitat for plant, animal and bird species, many of which are unique to the Bay Area, rare, or threatened.

Stephen Joseph

The Open Space Authority's Sierra Vista Preserve, which overlooks the South Bay region, provides essential ecosystem services, including clean air, protection for the area's water supplies, and other environmental and economic benefits that support healthy communities.

Andy Evert

A California native, the tule elk was once near extinction, but has rebounded and now includes some 3,800 elk statewide, including a population in the eastern foothills of Santa Clara County.

Located in the fastest-growing county in the Bay Area, the Santa Clara Valley faces tremendous growth and development pressure, with a projected 700,000 additional residents by 2040 (ABAG 2013). As the population continues to increase and the impacts of climate change are more fully realized, careful planning, new conservation methods, and innovative tools are required to maintain the delicate balance between development and open space to protect our precious natural resources. Continued land and resource conservation will ensure that open space lands and natural systems will sustain us with fresh water to drink, clean air to breathe, and resilience against the earth's rising temperatures.

The Open Space Authority: A Legacy of Conservation

The Open Space Authority (the Authority) was founded in 1993 for the purpose of balancing rapid development and ensuring protection of valuable open space lands and productive farm and ranchland. In its 20th anniversary year, the Open Space Authority has developed the *Valley Greenprint*, a science-based and community-informed long-term strategic document that will guide its work in coming decades and help to maintain the health and well-being of our land, our Valley, and our communities.

A small, diverse group of citizen activists together with community, business and government leaders sowed the seeds for the founding of the Santa Clara Valley Open Space Authority during the 1970s and '80s through advocacy and education about the threats to the environment from development and the urgent need to protect open space lands. Their tireless efforts on behalf of open space culminated with Governor Pete Wilson signing the Authority into being in 1993. The Authority's jurisdiction includes the cities of San Jose, Santa Clara, Milpitas, Campbell, Morgan Hill, and parts of unincorporated Santa Clara County (**Figure 1**). The Authority's purpose is to protect the County's quality of life by preserving open space and natural resources; it does so through well-planned land preservation, state-of-the-art resource management, educational programs, and collaborative partnerships.

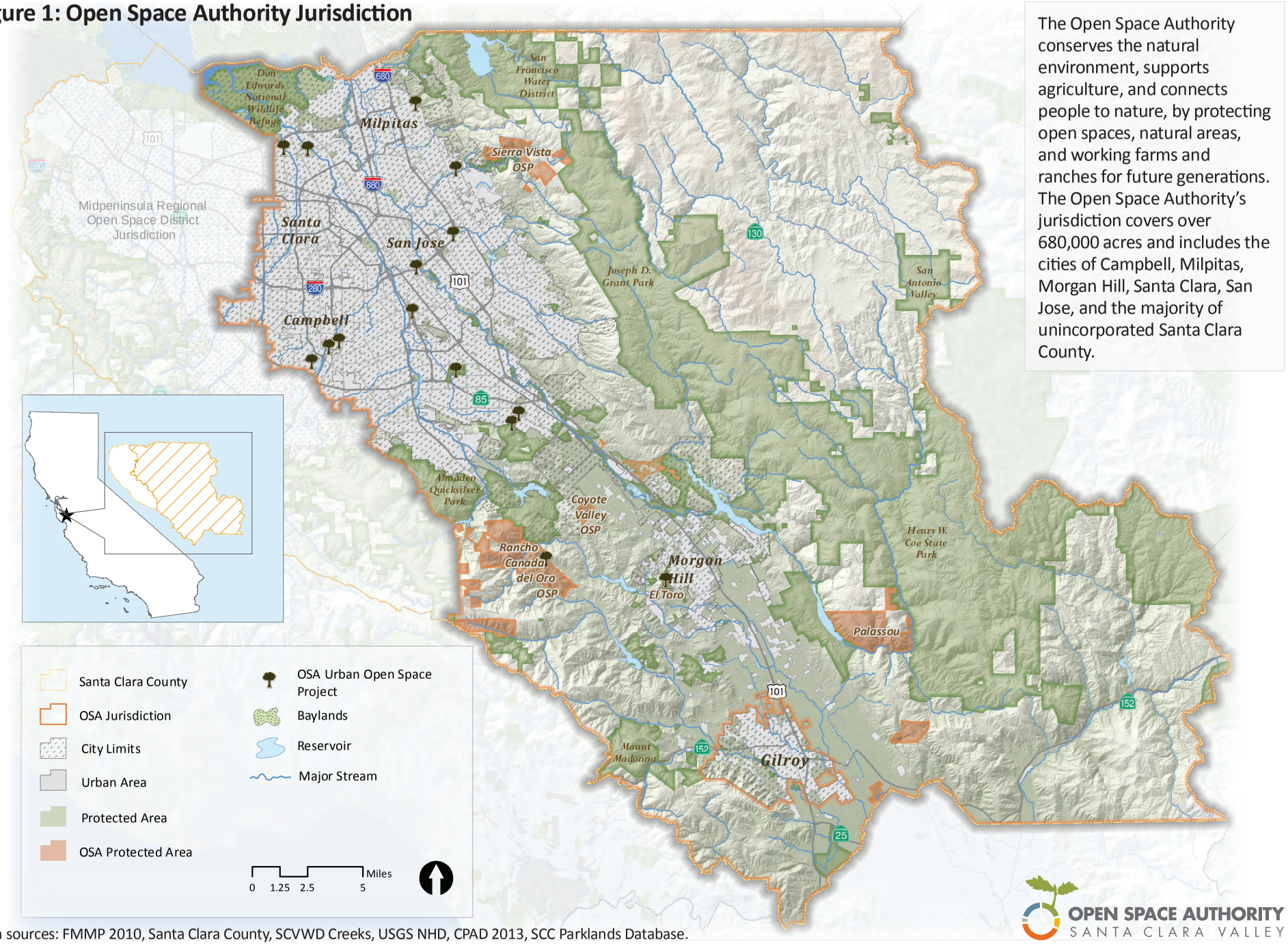
Mission Statement

The Open Space Authority conserves the natural environment, supports agriculture and connects people to nature, by protecting open spaces, natural areas, and working farms and ranches for future generations.

Today, the Open Space Authority is governed by a seven-member Board of Directors elected to four-year terms. Each director represents one of the Authority's seven governing districts. The Board oversees all Authority business including approval of policies, work plans, and budgets. The Board conducts business at regular meetings on the second and fourth Thursdays of each month.

In addition, a Citizens' Advisory Committee (CAC) provides public input to the Board and helps educate the public about the Authority's goals and accomplishments. Members of the CAC are appointed by the Board to serve two-year terms. Seven of the members represent each of the Authority's districts; nine more represent various interest groups: agriculture, business, civic organizations, development community, education, environmental/open space, labor, parks, and trails.

Figure 1: Open Space Authority Jurisdiction



The Open Space Authority conserves the natural environment, supports agriculture, and connects people to nature, by protecting open spaces, natural areas, and working farms and ranches for future generations. The Open Space Authority's jurisdiction covers over 680,000 acres and includes the cities of Campbell, Milpitas, Morgan Hill, Santa Clara, San Jose, and the majority of unincorporated Santa Clara County.

Data sources: FMMP 2010, Santa Clara County, SCVWD Creeks, USGS NHD, CPAD 2013, SCC Parklands Database.

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In the last 20 years, the Authority has protected nearly 16,000 acres of the Valley's most beautiful and valuable open space lands through purchase, conservation easements, and partnerships with other conservation agencies and nonprofits. Each year, tens of thousands of hikers, cyclists, and equestrians enjoy the Authority's well-maintained trails in its Rancho Cañada del Oro and Sierra Vista Open Space Preserves. The Authority has long recognized the value of nature and access to parks, open space, and trails to the quality of life in our urban communities. Through its Urban Open Space Program, the Authority has allocated nearly $10 million in funding for projects initiated by our city and county partners, including three significant projects that exemplify its importance: 1) Martial Cottle Park, an agricultural park project of Santa Clara County Parks and Recreation; 2) Three Creeks Trail, a project of the City of San Jose; and 3) Ulistac Natural Area, a project of the City of Santa Clara.

While retaining the founders' vision of open space lands and healthy, functioning ecosystems, the Authority has strategically preserved nearly 10,000 acres of watershed land that protect the Valley's water supply and maintain clean water by naturally filtering toxins and pollutants. The Authority is working collaboratively with farmers, ranchers and agencies to support the Valley's agriculture and ranching sectors to ensure their continuing vitality.

Importantly, the Authority works closely with many partners, including conservation organizations and public agencies, to establish and implement regional conservation strategies and to leverage funding for the greatest impact. The Authority and its partners have achieved a significant legacy of conservation and open space protection in its first 20 years. However, much work remains to be done to secure agricultural greenbelts, protect and connect wildlife habitats, and conserve vital water resources against imminent threats such as a growing population and the impacts of climate change.

A Vision for the Valley

Protection and preservation of open space lands and the multiple benefits they provide are essential to the continuing health and well-being of County residents. Ensconced in the open space protection tradition of its founders, the Authority has established a far-reaching vision to help preserve the Valley's natural resources and environment:

Derek Neumann

Open space provides natural species resilience to a changing environment.

The Open Space Authority envisions the Santa Clara Valley and its surrounding hillsides as a beautiful place where a vibrant network of interconnected open spaces, trails, wildlife habitats, and thriving agricultural lands enrich the region's cities, making our Valley an exceptional and healthy place to live, work, learn, and play.

In the Authority's vision of the Santa Clara Valley:

- A well-managed network of open spaces, farms, and ranches sustains our natural heritage and provides resilience to a changing environment.
- All members of our community are aware of the values of nature and have convenient access to local recreational and environmental education opportunities.
- Our drinking water is safeguarded by protecting our local creeks and watersheds, from their headwaters in the surrounding hills to the Bay.
- Community investment in nature – and the essential benefits that nature provides – sustains and enhances a healthy environment and economy.
- The rich heritage of the Valley's agriculture is thriving, with locally grown foods contributing to healthy communities and creating a sense of place and pride in our region.
- The Open Space Authority contributes to the region's quality of life by building and sustaining public and private partnerships in all our communities.

Derek Neumann

The Open Space Authority envisions the Santa Clara Valley and its surrounding hillsides with a vibrant network of interconnected open spaces, trails, wildlife habitats and thriving agricultural lands.

Context for the Valley Greenprint and the region's future

The Authority's challenge is to protect open space that meets the needs of our changing population and supports the region's quality of life. Some key issues will shape our region's future and thus influence the Authority's work over the next generation:

- The Bay Area's most populous county, with 15 cities and nearly two million people, Santa Clara County is one of the fastest-growing regions in the United States. Between 2010 and 2040, the County's population is expected to increase by nearly 700,000 – a 36% increase – more than any other county in the Bay Area, resulting in increased demand for land for housing and industry (ABAG 2013). While much of this growth will be directed into urban areas, there will still be tremendous pressure on outlying rural areas, increasing the risk of habitat fragmentation and conversion of farmland.
- The County's population is aging and becoming far more diverse. The proportion of population over 65 years of age will increase by 22% by 2040, corresponding with national trends of aging baby boomers (ABAG 2013). Latinos and Asians will comprise a much larger share of the regional population than they do in 2014, and some board districts within the Authority's jurisdiction will be "majority minority" districts. With these shifts will come potential changes in housing and lifestyle preferences, as well as the need for park and open space amenities for these populations.
- Population growth and development will also increase demand for local water resources. Due to increased demand and variables including climate change, by 2035 demand in the Bay Area will exceed available water supplies (SPUR 2013a).
- Development and urbanization have caused irrevocable loss of critical open space in the past two decades, particularly on the Valley floor. Over 200,000 acres of agricultural land have been lost in the Bay Area since 1984, with Santa Clara County losing 45% of its agricultural land. Greenbelt Alliance's *At Risk* analysis shows more than 63,400 acres of farmland and rangeland currently at risk of development, particularly in the south end of the County (Greenbelt Alliance 2012). Of the remaining approximately 27,750 acres of farmland, more than half is at risk of development over the next thirty years (SPUR 2013b).
- Under conservative scenarios, by mid-century the region's climate is expected to increase 3 to 10 degrees (PRBO Conservation Science 2011). This will further threaten water supplies, increase the risk of wildfire, and shift plant and animal habitats. Changing rainfall patterns in combination with rising sea levels will increase the risk of floods: Santa Clara County is second in the state in terms of businesses and economies at risk from flood damage. Over 132,000 residents live within the 100-year floodplain, and more than $15.2 billion in property and assets is at increased risk of flooding in the face of climate change (FloodSAFE California 2013).
- Development and habitat fragmentation have resulted in the loss of many natural areas throughout the County. Due to habitat loss and destruction, 24 species are listed as threatened or endangered at the federal or state level (County of Santa Clara, *et al.* 2012).

The Value of Natural Capital

David Tharp

Wildlife linkages are necessary to restore connections between fragmented habitats.

While these statistics provide sobering context and highlight the importance of the Authority's conservation work, there are positive trends that may result in increased conservation funding and new partnerships between the public and private sectors for open space and green infrastructure projects. The Authority has been working closely with several conservation partners on the *Healthy Lands & Healthy Economies* initiative, the first-ever economic valuation of nature's benefits in Santa Clara, Sonoma, and Santa Cruz Counties. This natural capital provides goods and ecosystem services such as clean air and water, flood risk reduction, locally-grown food, erosion control, and resilience to climate change. The report finds that, "Natural capital including open space, natural areas, parks, agriculture, and working lands, provides foundational economic goods and services for Santa Clara County including beauty, clean air, water, food, fiber, climate stability, storm and flood protection, raw materials, energy, and recreational value." (Batker *et al.* 2014)

The natural capital in Santa Clara County is estimated to provide between $1.6 billion and $3.9 billion in economic benefits each year (Batker *et al.* 2014). There is growing recognition among public service providers that investments in nature yield significant economic returns and can reduce significant expenses for built infrastructure. By understanding the provision of specific ecosystem goods and services across the landscape, the Authority and partners can identify opportunities for strategic funding in open space and natural capital that will provide a significant return on investment. For example, investing in landscapes that capture and filter water may reduce the need for water treatment and flood control facilities while also maintaining wildlife habitat, agriculture, and other open space values.

The natural capital in Santa Clara County is estimated to provide between $1.6 billion and $3.9 billion in economic benefits each year.

The *Valley Greenprint*

To address these issues and to guide its work over the next generation, the Open Space Authority has prepared a state-of-the-art greenprint for regional conservation. The *Santa Clara Valley Greenprint* establishes priorities and goals for protecting wildlands, conserving water resources, sustaining agricultural lands, and providing recreational and educational opportunities in coming decades. Using community input, the best available science, and an integrated planning approach, the *Valley Greenprint* identifies 10 Conservation Focus Areas for the Authority's work moving forward.

The central purpose in protecting natural communities is to ensure that human communities are healthy and livable. The *Valley Greenprint* provides strategies that support biodiversity, water resources, climate resilience, ecosystem services, working lands, and recreation, while promoting compact land use patterns that support transit, walkability, access to parks, and healthy food options. Implementation of the *Valley Greenprint* will help create a future in which the Santa Clara Valley remains a beautiful, desirable, healthy place to live and work.

CHAPTER 2 The *Santa Clara Valley Greenprint*: An Integrated Approach to Conservation

The *Santa Clara Valley Greenprint* will serve as the Authority's 30-year vision to help ensure the long-term environmental and economic sustainability of the Santa Clara Valley. It is intended to inform local planning efforts, increase the pace and effectiveness of collaborative conservation projects throughout the County, and better position the Authority and partners to secure state, federal, and private funding for land protection and resource stewardship projects.

Developed through an 18-month long iterative process that integrated community input, expert opinion, and scientific analysis, the *Valley Greenprint* identifies:

- **Goals and guiding principles** for protecting natural species, water resources, agricultural lands, and creating livable communities;
- **Geographic conservation priorities** where specific conservation goals can most effectively be met; and
- **Strategies**, partnerships, potential new funding sources, and other tools that will leverage resources for open space protection.

Stephen Joseph

The *Valley Greenprint* will help the Open Space Authority identify and coordinate regional conservation priorities, establish consensus on conservation priorities, and serve as a communication hub among the many stakeholders involved in regional conservation.

Greenprint Development Process and Relationship to Other Plans

The Authority launched the planning process in the spring of 2012 by convening a workshop for the Board and Citizens Advisory Committee (CAC) to discuss major trends and issues that will affect the agency and the County over the next generation, and to develop a common understanding of the key values and competencies that drive the Authority's work. This workshop established the need for a long-range vision to guide the agency's work over the next generation as well as focused implementation plans.

Stephen Joseph

The Valley Greenprint will serve, along with other regional plans, as a guide for the Open Space Authority's work over the next 30 years.

To prepare the *Valley Greenprint*, Authority staff and a team of planning consultants reviewed relevant plans and studies, conducted numerous stakeholder interviews and partner meetings, and launched an interactive website to foster community engagement. An initial Community Forum in December 2012 drew over 130 attendees from throughout Santa Clara County including residents and experts in the fields of biodiversity, water resources, working lands, livable communities, and recreation.

Using Geographic Information System (GIS) mapping technology, the Authority compiled an extensive natural resources database and identified preliminary conservation priorities and areas of focus. This effort also included the identification of detailed goals, guiding principles, and implementation actions. Initial findings were presented at a series of focus group meetings held in July 2013, where more than 70 experts reviewed and provided feedback on geographic priorities and draft goals and implementation actions.

The elements of an emerging *Valley Greenprint* were presented to the public at a series of community meetings held in Milpitas, Morgan Hill, and San Jose in September 2013. These meetings showcased the Authority's current programs and activities, and provided opportunities for the public to weigh in on the agency's identity and future direction. Throughout the planning process, regular presentations were made to the Board and CAC to update them on the progress of the *Valley Greenprint* and to get feedback at key project milestones. Following a final public review process, the Board of Directors approved the *Santa Clara Valley Greenprint* on March 27, 2014.

The Authority will implement the *Valley Greenprint* through a series of Strategic Implementation Plans that focus on specific conservation projects and programs. These Strategic Plans will in turn inform development of the Authority's annual work plans and associated budgets.

As a non-regulatory agency, the Santa Clara Valley Open Space Authority works with willing sellers and cooperative partners to protect land and manage natural resources. The *Valley Greenprint* is designed to complement many existing plans and initiatives that support and influence local open space efforts, including:

- Association of Bay Area Governments *Plan Bay Area*
- Santa Clara Valley Water District *Water Supply Infrastructure Master Plan* and *Water Resources Master Plan*
- Santa Clara Valley Habitat Agency *Santa Clara Valley Habitat Plan*
- Bay Area Open Space Council *Conservation Lands Network* and *Bay Area Critical Linkages Project*
- State Coastal Conservancy *Sustaining our Agricultural Bounty*
- Greenbelt Alliance *At Risk* reports
- Santa Clara County Parks and Recreation *Countywide Trails Master Plan* and *Parkland Acquisition Plan*
- City and County General Plans

The *Santa Clara Valley Greenprint* will help the Open Space Authority identify and coordinate regional conservation priorities, establish consensus on conservation priorities between public agencies, nonprofits, and private landowners, and serve as a communication hub among the many stakeholders involved in regional conservation. The *Valley Greenprint* is intended to complement – not replace – other guiding documents that have been approved by the Open Space Authority's Board of Directors, including the *5 Year Plan*.

Conservation Goals and Strategies

To ensure that the Open Space Authority's work over the coming decades is focused on the values most important for maintaining sustainable natural and human communities, the *Valley Greenprint* team worked closely with the Board, CAC, and numerous project stakeholders to identify four priority goals:

1. Protect and manage an interconnected system of **wildlands and natural areas** to support native habitats and species and to ensure resilience to a changing environment.
2. Protect and restore **water resources** to benefit local communities and the environment.
3. Conserve **farms, ranches, and other working landscapes** to sustain the economic and environmental viability of agriculture in the County.
4. Protect and manage a network of open space lands that provide opportunities for **nature-based recreation and education** for all residents.

In the following chapters, the *Valley Greenprint* includes a series of resource-specific maps that depict areas with high conservation values where each of these goals can best be met. The *Valley Greenprint* also includes an integrated map (**Figure 2**) that represents overall conservation priorities within the Authority's jurisdiction. These priorities were identified by weighting each of the four goals based on their relative importance, and combining them into a single map using GIS. Because of the important role that open space plays in preserving scenic views and ridgelines, the Authority prepared a detailed viewshed analysis and integrated this element into the weighting scheme. These areas represent the best opportunities to protect and manage landscapes that have multiple conservation values, and where conservation funding will result in the highest return on investment.

Together the *Valley Greenprint* maps and goals represent an important vision for land protection and stewardship within the Authority's jurisdiction. Linking large open spaces together into a network of protected and well managed lands will maintain key ecosystem services such as biodiversity, clean water, clean air, and carbon sequestration. These lands encompass some of the area's most beautiful scenery, and provide unparalleled opportunities for nature-based outdoor recreation and education.

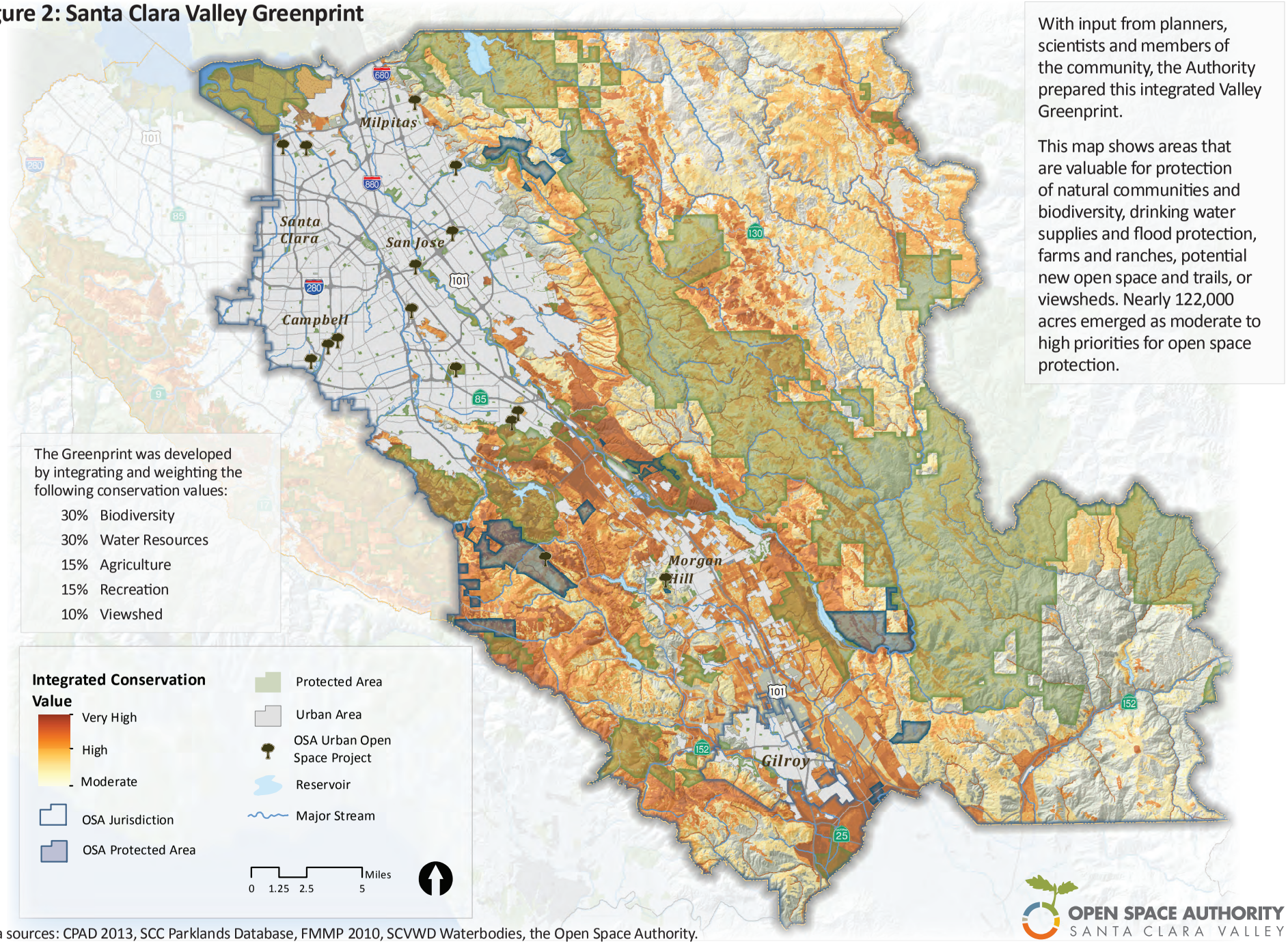
The *Valley Greenprint* analysis is countywide in scale and does not represent specific parcel or land acquisition opportunities. Rather, the maps and associated GIS data are intended to allow the Authority and conservation partners to generally identify high-priority areas for conservation based on single or multiple conservation goals. While the Conservation Focus Areas will serve as an important guide, the Open Space Authority does not intend to work exclusively within the Conservation Focus Areas.

As the Authority and partners protect new open space areas and as new data become available, the relative weight or importance of these goals can be adjusted. Authority staff will update and refine the *Valley Greenprint* GIS as a tool to make the most informed decisions about where to invest in conservation projects.

Derek Neumann

By protecting natural communities and ecosystem services, the Authority can help ensure long-term quality of life in the Valley.

Figure 2: Santa Clara Valley Greenprint



With input from planners, scientists and members of the community, the Authority prepared this integrated Valley Greenprint.

This map shows areas that are valuable for protection of natural communities and biodiversity, drinking water supplies and flood protection, farms and ranches, potential new open space and trails, or viewsheds. Nearly 122,000 acres emerged as moderate to high priorities for open space protection.

Data sources: CPAD 2013, SCC Parklands Database, FMMP 2010, SCVWD Waterbodies, the Open Space Authority.

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SANTA CLARA VALLEY

Key Findings From the *Valley Greenprint* Analysis

There is a tremendous legacy of open space protection in Santa Clara County, but much more work is necessary to conserve the region's most critical habitats, farmland, and water resources. There are approximately 201,000 acres of land within the Authority's jurisdiction that are in some form of protected status, but these areas don't necessarily represent the most important places for protecting ecosystems, water supplies, or agricultural viability, or to connect people to nature close to home. **The *Valley Greenprint* identifies 178,000 acres as having the highest conservation values, including 56,000 acres that are already protected. The remaining 122,000 acres will be the focus of the Authority's work over the next generation.**

Land conservation and stewardship are necessary to protect and restore vital water resources. **More than 228 miles of streams are listed as impaired for one or more pollutants.** Over 60% of the area where groundwater recharge occurs has been lost to development. Nearly half of our floodplains are developed, placing communities at risk from flooding. Less than a third of the remaining undeveloped floodplains are protected.

Derek Neumann

The serpentine grasslands of Coyote Ridge support many rare, threatened, and endangered plants and animals, and form one of the region's iconic landscapes.

Only 21,000 acres remain in agricultural production in the southern Santa Clara Valley. Farmlands near southern San Jose, Morgan Hill, and Gilroy are at the greatest risk of development, and are high priorities for conservation.

More than 59,000 acres are suitable for establishment of new parks and open spaces that offer opportunities for environmentally-appropriate public access, recreation, outdoor environmental education, and natural resource management and stewardship. Together, current city and county trails plans lay out an ambitious network of proposed trails that will connect neighborhoods to local and regional open spaces; however, much work remains to close more than 405 miles of gaps in these trails.

Over 30% of the region's ridges, scenic hillsides, and agricultural areas are within critical viewsheds from cities and populated areas. Land protection and land use planning can preserve the area's most iconic landscapes and outstanding views to maintain the area's unique identity.

Document Organization

The following chapters delve more deeply into each of the four goals, and highlight opportunities for open space protection focused specifically on that topic. Each chapter describes the important resources behind each goal, as well as guiding principles for the Open Space Authority's work. Opportunities for protecting these resources are followed with specific strategies the Open Space Authority and partners can use to achieve the *Valley Greenprint* goals. Each strategy implements one or more of the resources' guiding principles.

Chapter 7 profiles 10 landscapes where the Authority can focus its conservation work to protect critically important areas that have multiple conservation values. Chapter 8 concludes with a discussion of new tools and approaches that will be necessary to implement the *Valley Greenprint*.

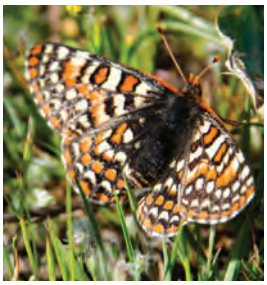
CHAPTER 3 Wildlands and Natural Areas

Goal and Guiding Principles

GOAL: Protect and manage an interconnected system of wildlands and natural areas to support native habitats and species and to ensure resilience to a changing environment.

GUIDING PRINCIPLES:

- Protect and restore habitat for Santa Clara County's rare and unique biological communities and species.
- Protect and manage large, interconnected habitats and landscape linkages to preserve the full range of biological systems and ensure their long-term viability in response to a changing climate.
- Provide leadership and foster collaborative land stewardship in Santa Clara County, on both public and private lands.
- Conduct outreach and education efforts to better inform the public about local species, habitats, and linkages and the importance of their protection.



Derek Neumann

The Bay Checkerspot butterfly is one of 24 species in the County listed as threatened or endangered.

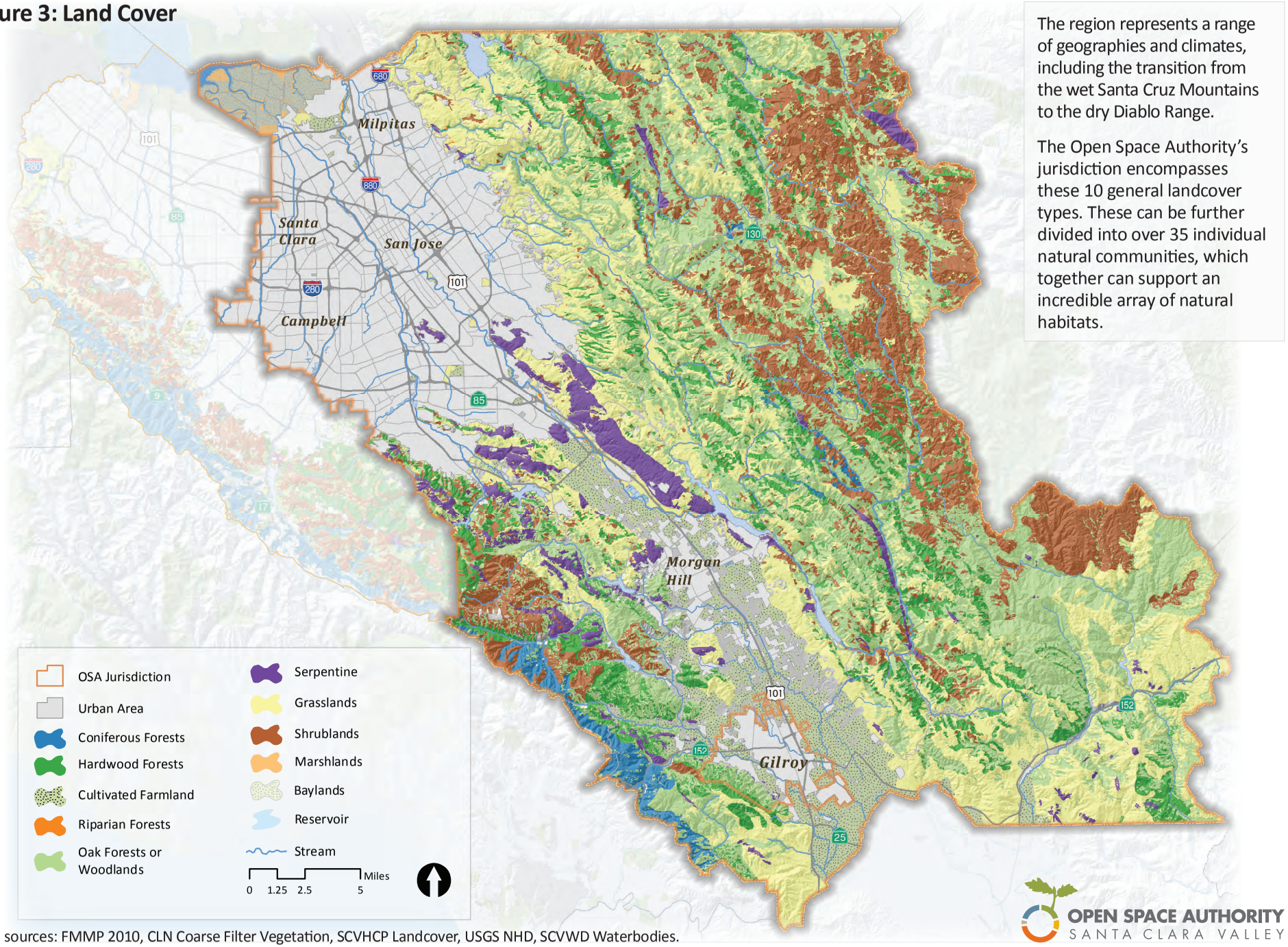
Encompassing large portions of the Santa Cruz Mountains and the Diablo Range, Santa Clara County's wildlands and natural areas support an incredible array of natural communities and diverse habitats for plants and wildlife (**Figure 3**). Native grasslands, oak woodlands, and riparian forests are among the many natural communities that the Open Space Authority has worked to preserve. There is a tremendous amount of work still to be done to protect the long-term integrity of the region's most important wildlands. Indeed, as a result of the extensive development and urbanization that has occurred in the County, there are an estimated 147 special-status species that have dramatically declined in distribution and abundance, and 24 of these are considered threatened or endangered (County of Santa Clara, *et al.* 2012).

There is a tremendous amount of work still to be done to protect the long-term integrity of the region's most important wildlands and the 147 special-status species they support.

Open Space Authority wildlife cam

An interconnected system of open space is required to support habitat for wild-ranging species.

Figure 3: Land Cover



The region represents a range of geographies and climates, including the transition from the wet Santa Cruz Mountains to the dry Diablo Range.

The Open Space Authority's jurisdiction encompasses these 10 general landcover types. These can be further divided into over 35 individual natural communities, which together can support an incredible array of natural habitats.

Data sources: FMMP 2010, CLN Coarse Filter Vegetation, SCVHCP Landcover, USGS NHD, SCVWD Waterbodies.

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SANTA CLARA VALLEY

Important Areas for Wildlands and Natural Areas Conservation

To date the Authority has protected nearly 16,000 acres of open space, water resources, farms, and rangelands; it will continue to focus on protecting and managing important natural areas to protect habitats, critical linkages, and the species they support. To identify where open space protection will be most effective, the *Valley Greenprint* team compiled a wealth of information and spatial data regarding regional distribution of species and habitats, as well as input from numerous species experts. The *Valley Greenprint*'s conservation priorities for Wildlands and Natural Areas include protecting locally rare natural communities and habitat for rare, threatened and endangered species; important streams and riparian areas; regionally significant landscape linkages for wildlife movement; and areas with a high level of environmental variability and attributes that may provide resilience to climate change.

Rare Natural Communities and Habitats

Building on the work of the Bay Area Open Space Council's *Conservation Lands Network* – a collaborative scientific process to identify the types and location of habitats needed to sustain diverse and healthy communities of plant, fish, and wildlife species – the Authority identified locally rare natural communities and habitats (BAOSC 2011), shown in **Table 1**. These habitats are naturally limited in distribution or have become locally rare due to widespread development. These habitats tend to support the region's rarest plant and animal species. Including these areas in a land protection strategy will help ensure that all of the region's diverse habitats are represented in a well-managed network of protected lands, and will help curb local species extinction.

Stephen Joseph

Atop Alum Rock Park, the Open Space Authority's Sierra Vista Open Space Preserve comprises oak woodlands, grasslands, and chaparral, and provides visitors with access to over 10 miles of trails..

Table 1: Protection of vegetation types within the Authority's jurisdiction.

	Vegetation types	Total acres	Acres protected	% protected
Barren / Rock				
	Barren / Rock	371	83	22%
Coniferous Forests				
*	Coulter Pine Forest	198	0	0
	Douglas Fir Forest	35	12	35%
*	Knobcone Pine Forest	4	<1	3%
	Ponderosa Pine Forest (non-maritime)	956	860	90%
	Redwood Forest	7,283	2,608	36%
Grasslands				
*	Coastal Terrace Prairie	100	7	7%
	Grasslands	138,666	40,689	29%
Hardwood Forests				
	California Bay Forest	8,635	4,577	53%
	Montane Hardwoods	43,158	18,532	43%
Marshlands				
	Coastal Salt Marsh / Coastal Brackish Marsh	1,217	1,035	85%
	Permanent Freshwater Marsh	259	118	46%
Oak Forests / Woodlands				
*	Black Oak Forest / Woodland	46	0	0
	Blue Oak- Foothill Pine Woodland	13,023	7,195	55%
	Blue Oak Forest / Woodland	64,752	31,378	48%
*	Canyon Live Oak Forest	110	0	0
	Coast Live Oak Forest / Woodland	99,976	38,795	39%
*	Valley Oak Forest / Woodland	2,284	908	40%
Riparian Forests				
*	Central Coast Riparian Forests	1,717	730	43%
*	Sycamore Alluvial Woodland	6	1	18%
Serpentine				
*	Serpentine Barren	40	1	2%
*	Serpentine Conifer	155	58	37%
*	Serpentine Grassland	11,618	3,376	29%
*	Serpentine Hardwoods	6,036	2,570	43%
*	Serpentine Leather-Oak Chaparral	1,560	428	27%
*	Serpentine Riparian	75	32	43%
*	Serpentine Scrub	1,054	513	49%
Shrublands				
	Chamise Chaparral	40,132	16,004	40%
*	Coastal Scrub	3,371	1,047	31%
	Mixed Chaparral	523	423	81%
	Mixed Montane Chaparral	33,757	6,483	19%
	Semi-Desert Scrub / Desert Scrub	18,536	7,913	43%
Urban / Anthropogenic				
	Urban	128,394	6,901	5%
	Rural Residential	15,644	686	4%
	Cultivated Agriculture	37,895	2,732	7%
	Non-Native / Ornamental	78	37	47%
Water / Reservoir				
	Water / Reservoir	9,712	8,337	86%
** denotes globally unique or highest priority locally rare vegetation types*				

Cait Hutnik

The serpentine grasslands of Coyote Ridge are among the resources the Santa Clara Valley Habitat Plan is designed to help protect.

Several natural vegetation communities within the Authority's jurisdiction are especially rare and will be the targets of focused conservation efforts (**Figure 4**). These include the serpentine grasslands along Coyote Ridge and in the hills west of Coyote Valley. Serpentine grasslands provide essential refugia for a number of rare native plant species that depend on unique serpentine soil conditions, including the Mt. Hamilton thistle, Metcalf Canyon jewelflower, Santa Clara Valley dudleya, and smooth lessingia. Serpentine grasslands support the threatened Bay Checkerspot Butterfly, and offer potential for the population's recovery through westward expansion across Coyote Valley. These species are among those targeted for protection in the *Santa Clara Valley Habitat Plan,* which seeks to mitigate impacts to the County's rarest species through development of a habitat reserve system (see sidebar).

Other important natural communities include pure stands of blue oak and valley oak woodlands. High-quality blue oak woodlands are generally scattered throughout the County on low- to mid-elevation hills, typically on north or northeast-facing slopes, while valley oak woodlands are limited to a few remaining locations in the undeveloped Valley floor in the southeastern portion of the County.

Redwood forest occurs throughout the coastal Bay Area, but in Santa Clara County exists only as a narrow ribbon in the Santa Cruz Mountains. These redwood forests complete an ecological transition from grassland on the Santa Clara Valley floor up through the chaparral scrublands of the east-facing slopes of the Santa Cruz Mountains. They encompass the headwaters of a number of streams that originate in the Santa Cruz Mountains, and form an integral part of a complex landscape that may provide ecological resilience in the face of climate change. Within this area are small isolated patches of knobcone pine, a unique fire-dependent conifer woodland that is very rare throughout the Bay Area.

Santa Clara Valley Habitat Plan

The *Santa Clara Valley Habitat Plan* provides a framework for the protection of natural resources within a large portion of Santa Clara County, while streamlining the permitting process for development projects (County of Santa Clara *et al.* 2012).

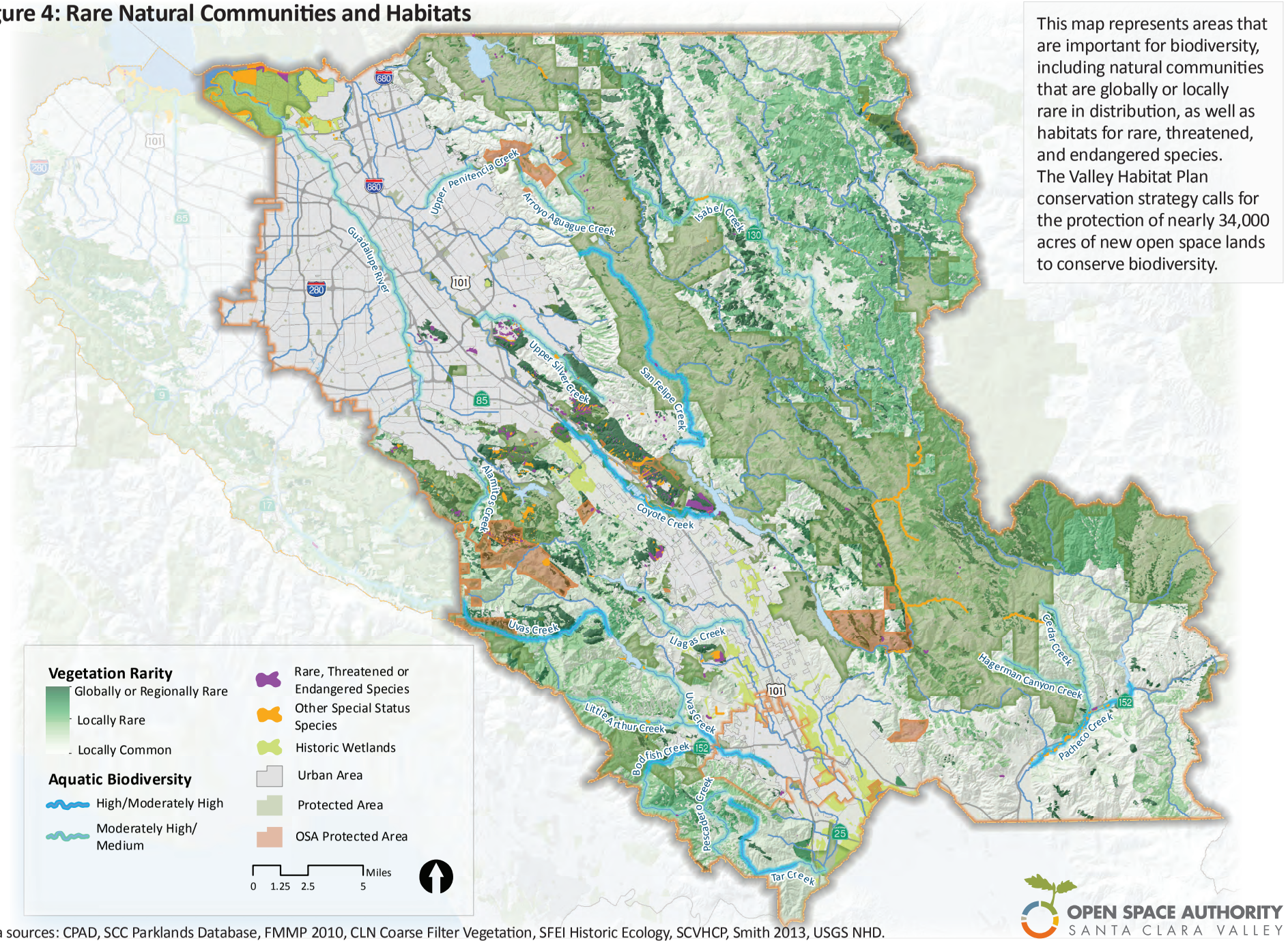
The *Valley Habitat Plan* allows the cities of Gilroy, Morgan Hill, and San Jose, Santa Clara County, the Santa Clara Valley Transportation Authority, and the Santa Clara Valley Water District to receive endangered species "take" permits for their activities and projects. Rather than separately permitting and mitigating individual projects, the Habitat Conservation Plan (HCP) evaluates impacts and mitigation requirements comprehensively, and in ways that are more efficient and effective for at-risk species and their essential habitats.

This will benefit many species, including the famous Bay Checkerspot Butterfly, which can be considered a poster child for serpentine grasslands. Once widespread on the San Francisco Peninsula, the threatened butterfly now hangs on at Coyote Ridge, where its protection will also benefit the many other species endemic to this landscape.

The *Valley Habitat Plan* conservation strategy calls for the protection of nearly 34,000 acres of new open space lands over the next 40 years. These lands would serve as new reserves that are larger and more ecologically valuable than the habitat fragments protected by mitigation of projects on an individual basis.

As a participating special entity, the Open Space Authority helped create the *Valley Habitat Plan*, and will play a key role in the protection, restoration, and management of the resulting reserve system.

Figure 4: Rare Natural Communities and Habitats



Data sources: CPAD, SCC Parklands Database, FMMP 2010, CLN Coarse Filter Vegetation, SFEI Historic Ecology, SCVHCP, Smith 2013, USGS NHD.

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Cait Hutnik

Riparian areas are essential not only for wildlife but also for protection of water resources, including aquifer recharge and water quality.

Aquatic Habitats

Streams, ponds, and wetlands – along with adjacent riparian and upland habitats – are among the most important conservation priorities for the Authority as these areas provide critical habitat for birds, reptiles, and amphibians, as well as a host of other environmental benefits (see **Figure 4**). Within the Authority's jurisdiction, a number of threatened and endangered species rely upon this important aquatic habitat for all or part of their life cycles, including California Red-legged Frog, Foothill Yellow-legged Frog, Western Pond Turtle, and California Tiger Salamander. Many local streams provide spawning and rearing habitat for steelhead trout, fall-run Chinook salmon, and many other native fish species.

Working with experts including Dr. Jerry Smith (San Jose State University), Jae Abel (Santa Clara Valley Water District), and Jonathan Ambrose (NOAA Fisheries), the Authority took a watershed-based approach to identify important stream and aquatic habitat conservation priorities. Many of these areas include steelhead streams; because of their range and diverse habitat requirements, steelhead are particularly sensitive to habitat loss and modification and serve as a very useful indicator of watershed integrity.

Water quality impacts from sedimentation and other pollutants are a very serious concern, especially in Coyote Creek, Uvas Creek, and the Upper Pajaro River. These waterways will benefit from land conservation and stewardship projects that help restore and maintain water quality and habitat conditions.

- **Coyote Creek**. Many areas along Coyote Creek upstream of Metcalf Road are bordered by mixed riparian forests with sycamores on adjacent floodplains, and the stream and its tributary Upper Penitencia Creek provide important steelhead habitat. Upper Penitencia Creek and Upper Silver Creek support native fish populations as well as California Red-legged Frog and California Tiger Salamander. Lower Coyote Creek has been severely impacted by urbanization and the many negative effects of its location below a large dam (poor channel conditions, limited riparian habitat). In-stream habitat enhancement and riparian restoration will be essential to improve fish passage habitat downstream of Anderson Dam.

Protection of riparian habitat is critical for the threatened California Red-legged Frog.

- **San Felipe Creek**. This spring-fed tributary to Anderson Reservoir runs year-round even in drought conditions. While its location above Anderson Dam doesn't support steelhead, native fish including rainbow trout are present, as well as the threatened California Red-legged Frog and the locally rare Foothill Yellow-legged Frog.
- **Upper Pajaro River**. From the mouth of the San Benito River upstream to Llagas Creek and Miller Canal, the Pajaro has a well-developed riparian area. The river provides important habitat and passage for fish, while the surrounding natural areas, farms, and ranches allow for species migration between the Santa Cruz Mountains and the Diablo Range. The Upper Pajaro and Miller Canal run through an important floodplain that includes San Felipe Lake. During winter rains, this lake swells three to four times in size and serves as a critical stop along the Pacific Flyway for migrating and seasonally nesting birds.
- **Uvas Creek**. Below Uvas Reservoir, Uvas Creek and its principal tributaries (Bodfish, Tar, and Little Arthur Creeks) are considered essential for steelhead recovery. Despite severe impacts from the past two decades of rural development, these creeks generally support high-quality riparian vegetation and provide habitat for a number of sensitive plant and animal species. They also provide very important linkages for wildlife movement between the lower and upper watershed. Restoration priorities include erosion and sedimentation control projects, development of off-stream ponds to enhance habitat conditions, and fish passage and barrier removal projects. The watershed above Uvas Reservoir provides exceptional habitat for many native fish including rainbow trout and sculpin, California Red-legged Frog, and potentially Foothill Yellow-legged Frog.
- **Pescadero Creek**. Located on the divide between Santa Clara and Santa Cruz County, Pescadero Creek is in relatively pristine condition, but the relatively dry watershed provides good steelhead spawning and rearing habitat during wet and average rain years, and outstanding wildlife habitat throughout its watershed.
- **Pacheco Creek**. From its confluence with the Pajaro River upstream to Casa de Fruta, the stream flows through closely bordering agricultural crops, and supports a dense but narrow mixed riparian forest of willows, box elder and sycamores. Upstream to the North Fork of Pacheco Reservoir and on the lower South Fork, the creek flows through a broad floodplain with some of the best remaining sycamore alluvial woodland habitat in the county. Cedar Creek and Hagerman Canyon are important tributary streams, providing good upland habitat and good steelhead habitat during years of average and wet rainfall. Water levels in Pacheco Creek are controlled by releases from Pacheco Dam, and dam operations in recent years have led to declines

Stephen Joseph

This pond at Rancho Cañada del Oro Open Space Preserve hosts Western Pond Turtles, a species of special concern.

in the sycamore woodland. However, with proper management the woodland can be restored and flows can be optimized to maintain stable populations of steelhead. The creek serves as a potential north-south wildlife corridor where it crosses beneath Highway 152 at several bridge locations.

Wetlands

More than 90% of the region's wetlands have been lost to development. Several large wetland complexes are located within the Authority's jurisdiction (see **Figure 4**). They are among the most productive and diverse habitats for native plants and animals in the County, and are important targets for land conservation and habitat restoration.

- **South Bay Salt Ponds**. The south shore of San Francisco Bay is ringed with a series of wetlands and salt ponds that are visited annually by more than 1,000,000 birds migrating along the Pacific Flyway. These wetlands provide outstanding habitat to over 500 plant and animal species, including more than a dozen that are threatened or endangered. The multi-agency South Bay Salt Pond Restoration Project aims to restore 15,100 acres of industrial salt ponds to a rich mosaic of tidal wetlands and other habitats. The largest tidal wetland restoration project on the West Coast, the project will restore vital habitat for endangered species and migrating birds, and will result in a series of improved levees and restored outer marshes that will protect communities from tidal surges and increase the flood carrying capacity of local creeks and flood control channels. Within the Authority's jurisdiction, conservation priorities include wetland restoration and habitat enhancement near the mouth of Coyote Creek where it flows into the Bay, in the vicinity of the San Jose-Santa Clara Water Treatment Plant, and along the lower Guadalupe River west of Milpitas where there may still be opportunities to restore a diverse landscape that transitions from wet meadow saltgrass-alkalai meadow habitat near the shore to an adjacent complex of grassland and vernal pools (Grossinger *et al.* 2006).

Derek Neumann

This Great Blue Heron is one of many birds that rely on the region's wetlands.

- **Laguna Seca**. Located in the western Coyote Valley, Laguna Seca is the County's largest freshwater wetland. In combination with Fisher Creek and the surrounding agricultural fields and upland grassland habitats, this area provides outstanding habitat for migrating and seasonally nesting birds, rare species such as California Tiger Salamander and California Red-legged Frog, and one of the County's largest and most diverse populations of raptors. Laguna Seca was extensively studied as part of the San Francisco Estuary Institute's *Coyote Creek Watershed Historical Ecology Study*, which concluded, "Restoration of Laguna Seca provides an unusual opportunity to restore natural wetland functions and a diverse, large, natural, valley floor wetland. Successful wetland restoration at Laguna Seca could support a wide range of threatened species, including rare plants, amphibians, and water birds." (Grossinger *et al.* 2006) Through a series of small restoration projects along Fisher Creek, establishment of new ponds and swales, and neighborhood-scale infiltration projects, land conservation in this area could also reduce downstream flooding and contribute to local groundwater supplies. This work would also enhance the ability of wildlife to move through the Coyote Valley wildlife linkage between the Santa Cruz Mountains and the Diablo Range.

While many historic wetlands have been drained or modified for agricultural use, they have the best soil and environmental characteristics to support restored wetland and former valley-bottom habitats. Several other important wetland complexes, including the Santa Clara Valley Water District's Carnadero Preserve and Coyote Parkway wetlands, provide exceptional habitat and ongoing opportunities for habitat enhancement or restoration. The Authority will use this information as a guide to identify conservation priorities and to establish specific habitat restoration goals and management objectives for its open space preserves.

Open Space Authority wildlife cam

As habitat diminishes, connections between remaining habitat patches remain key for migratory animals and those with large home ranges.

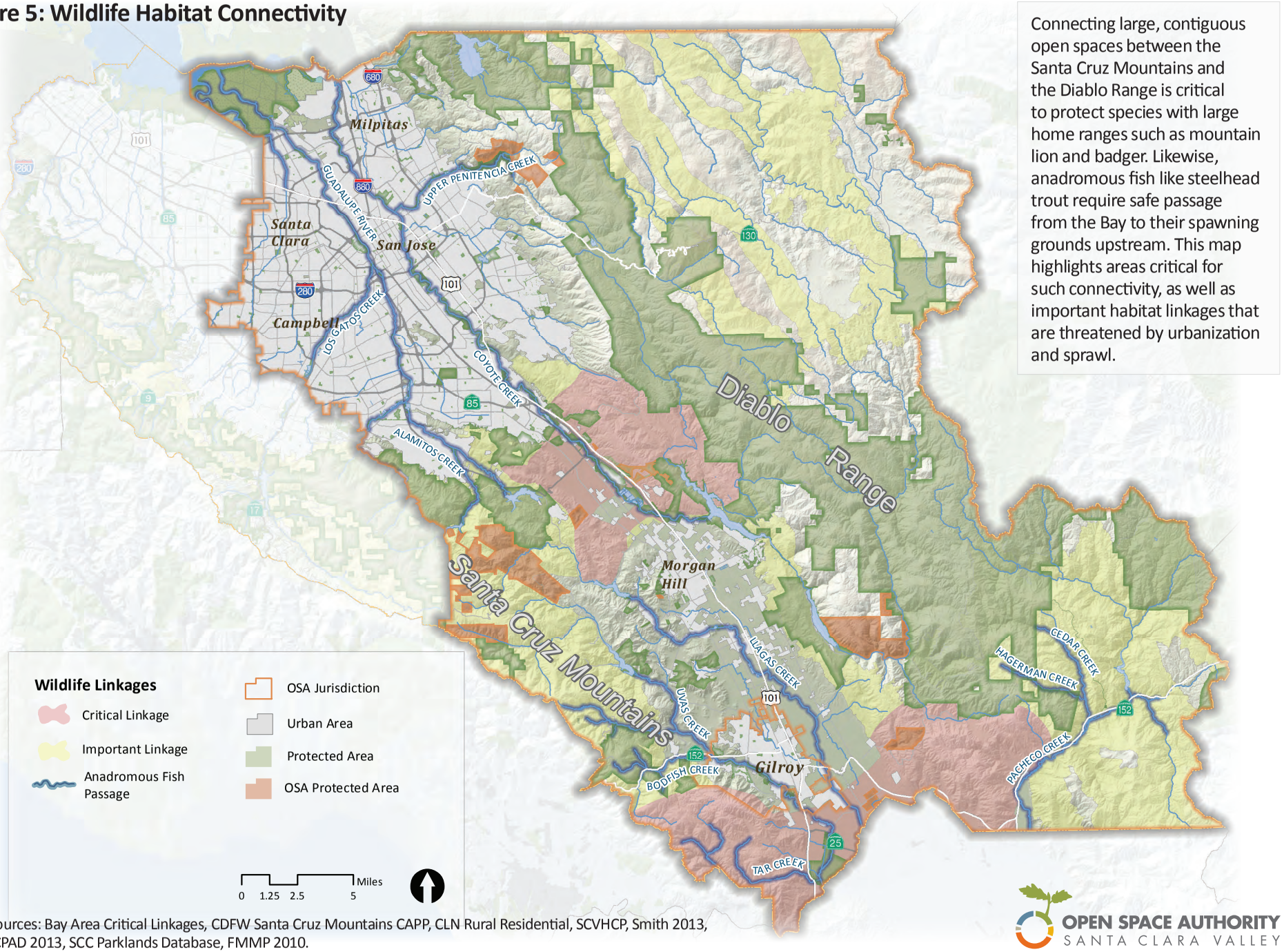
Landscape Linkages

Migratory animals and those with large home ranges require extensive natural areas to provide habitat. Mountain lions are a keystone predator in the region, and their population may be at risk in the long term as their habitat diminishes and populations become more isolated. In areas such as Santa Clara County where development and land costs make large-scale protection challenging, the alternative is to provide habitat corridors, or linkages, that allow species to move between habitat blocks (see **Figure 5**). The essential goal is to retain connectivity between the Santa Cruz Mountains, the Diablo Range, and the Gabilan Range for mountain lion, American badger, bobcat, and other far-ranging species. Planning for wildlife movement and incorporating movement routes into future land use scenarios (see sidebar) is pivotal for protecting these species from local extinction, and will also benefit many other species of plants and animals. Connecting large, contiguous tracts of open space allows movement of wildlife between blocks of habitat and also supports large-scale ecosystem processes such as fire, flooding, and adaptation to climate change.

Bay Area Critical Linkages Project

An effort to preserve landscape-level process and maintain connected wildlife habitat throughout much of California, the *Critical Linkages: Bay Area & Beyond* project identifies 14 landscape-level connections that form a regional network of interconnected wildlands. Led by Science and Collaboration for Connected Wildlands, *Critical Linkages* is an expansion of work from the Bay Area Open Space Council's *Conservation Lands Network*. It is designed to preserve landscape level ecosystem processes and maintain connected wildlife populations from Mendocino National Forest in the north to the beaches of the Santa Lucia Range on Los Padres National Forest and Hearst Ranch in the south, and eastward to the southern end of the Inner Coast Range. The Open Space Authority is working closely with the California Department of Fish and Wildlife, The Nature Conservancy, and many other partners to protect, restore, and manage land within critical landscape linkages.

Figure 5: Wildlife Habitat Connectivity



Connecting large, contiguous open spaces between the Santa Cruz Mountains and the Diablo Range is critical to protect species with large home ranges such as mountain lion and badger. Likewise, anadromous fish like steelhead trout require safe passage from the Bay to their spawning grounds upstream. This map highlights areas critical for such connectivity, as well as important habitat linkages that are threatened by urbanization and sprawl.

Data sources: Bay Area Critical Linkages, CDFW Santa Cruz Mountains CAPP, CLN Rural Residential, SCVHCP, Smith 2013, NHD, CPAD 2013, SCC Parklands Database, FMMP 2010.

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SANTA CLARA VALLEY

Using several excellent assessments of local habitat connectivity, including *Bay Area Critical Linkages*, the *Santa Clara Valley Habitat Plan* (County of Santa Clara *et al.* 2012), and *Safe Passage for Coyote Valley* (Phillips *et al.* 2012), the Authority identified three areas particularly critical for wildlife movement:

- **Coyote Valley**, which provides the northernmost connection between the Santa Cruz Mountains and the Diablo Range. Wildlife movement across the Coyote Valley is challenged by barriers such as Highway 101 and the rail corridor and is severely threatened by planned development projects. The Authority is working closely with the California Department of Fish and Wildlife and several conservation partners on cutting-edge research projects to identify specific land management projects (such as directional fencing and enhanced culverts) to protect and enhance connectivity in the few remaining viable locations across the valley. In many cases, this will require protection of working farms and ranches, either through fee purchase or through a combination of conservation easements and stewardship incentives.
- **Upper Pajaro River**, which provides the southernmost connection between the Santa Cruz Mountains and Diablo Range and also supports a connection between the Santa Cruz Mountains and the Gabilan Range to the south. Protecting a few thousand acres of farms, ranches, and open spaces along the Pajaro will help connect hundreds of thousands of acres of core habitat areas in the surrounding mountain ranges. Maintaining and enhancing connectivity in this landscape is a critical strategy to help plants and animals adapt to changing climate conditions.
- **Eastern Diablo Hills**, which provides a north-south connection between protected lands in Alameda County and Coyote Ridge.

Opportunities to permanently protect these connections are dwindling, and the Open Space Authority is making it a priority to protect, restore, and manage the lands that create these linkages. Both the importance and scale of making these connections will require the Authority to collaborate with a wide range of partners including other land management agencies, transportation and planning agencies, nonprofit conservation groups, private landowners, and others.

William K. Matthias

Working lands and riparian areas can serve as important linkages for wildlife to move through the landscape.

Climate Change Resilience

Even conservative climate change scenarios predict that the temperature in the Authority's jurisdiction will increase 3.6 to 10.8˚F by the end of the century (Ekstrom and Moser 2012), resulting in warmer summers and winters, and earlier spring arrivals. This will alter vegetation patterns; as ecosystems shift, species may be squeezed out of suitable habitat, eventually being lost. Higher temperatures and drier conditions are likely to aggravate the intensity and frequency of wildfires, as well as spread of invasive species (Sandel and Dangremond 2012). These shifts will affect not only natural and urbanized areas, but also the use and management of agricultural lands, including water regimes and availability and crop suitability. Changes in precipitation and rainfall will likely increase both drought and flooding – affecting urban areas, aquatic ecosystems, and water supply (PRBO Conservation Science 2011). Sea level rise and flooding will have significant effects in Santa Clara County, which has some of the highest projected property value losses in the Bay Area region (Heberger *et al.* 2012). Within the Open Space Authority's jurisdiction, much of the urban development is in flood-risk areas that are physically incapable of absorbing change in the natural environment.

Protecting open space is one of the most effective ways for the Authority to mitigate the impacts of climate change and allow adaptation to its effects. The Authority aims to protect large blocks of habitat that will provide more opportunities for species to adapt and shift their ranges in response to increasing temperatures, decreasing precipitation, and more intense storm and fire events. Protection of natural open spaces and working lands can help mitigate climate change by sequestering carbon, one of the primary contributors to global warming (California State Coastal Conservancy 2013).

To include climate change impacts in every conservation decision, the Open Space Authority uses Climate-Smart Principles (see sidebar) to guide land protection and management efforts. By protecting large, interconnected landscapes, focusing on water resources, and planning for extremes, the Authority can help build in resilience to help natural and human communities adapt.

Figure 6 depicts areas that provide ecological resilience to a changing climate, and that may serve as critical climate refugia for plants and animals under changing conditions. These include streams, wetlands, and riparian areas that provide perennial water sources for wildlife; north-facing slopes; and other areas with high environmental and topographic variability where cool local microclimates will persist even when the region is generally getting hotter and drier. Riparian habitats are especially important as they serve as local wildlife corridors that allow plant and annual species to move and adapt as temperatures change, particularly up and down elevation gradients that connect terrestrial and aquatic ecosystems. Many of these areas are located in places that emerged as high priorities for land conservation and stewardship in the Valley Greenprint (**Figure 2**). Efforts by the Authority and its partners to protect these areas will have an added benefit of ensuring resilience to climate change.

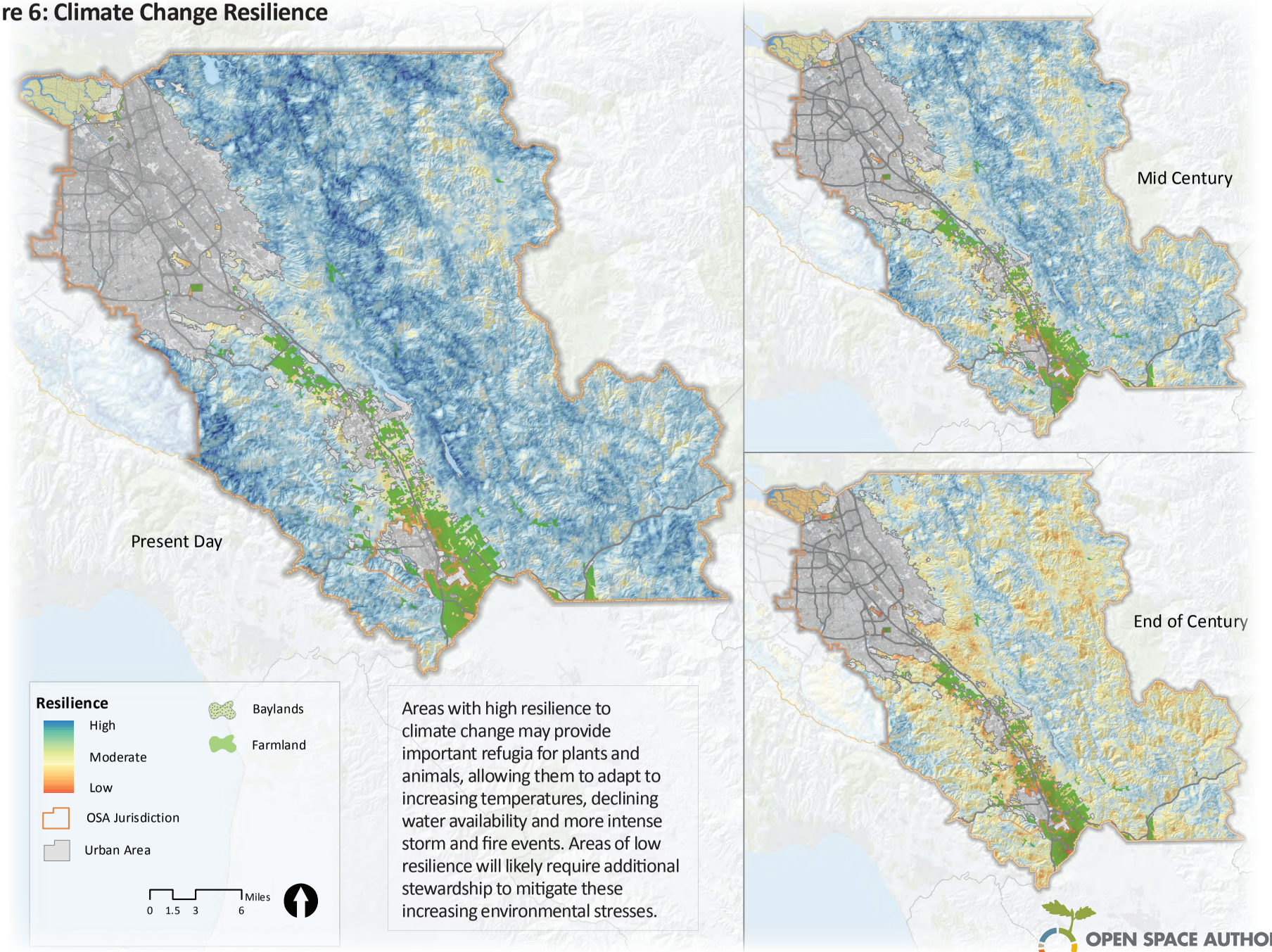
As conditions change toward mid-century and beyond, there will be much greater environmental stress on the landscape, requiring the Authority to increasingly focus resource planning and land management efforts to address climate change. Critical projects include the protection of stock ponds and other water resources that are increasingly at risk, weed management projects (for example, protecting the rare serpentine grasslands at Coyote Ridge from the increased spread of barbed goat grass), and development of interagency coordinated wildfire protection plans.

Climate-Smart Principles

The principles, developed by the Bay Area Ecosystems Climate Change Consortium (BAECCC), use a nature-based approach to enhance ecosystem services, and allow for humans and wildlife to adapt to climate change.

- Focus goals on future conditions – consider extremes and projections.
- Design actions in ecosystem context – consider ecosystem function, multiple benefits, and broad geographic scope.
- Employ adaptive and flexible approaches – monitor, learn what works, and reassess to adapt to change.
- Prioritize actions – based on science, multiple scenarios, and across species.
- Collaborate and communicate across sectors – partner to learn quickly, solve problems, and share knowledge.
- Practice the 10% rule – spend 10% of your time on creative new approaches.

Figure 6: Climate Change Resilience



Data sources: SCCDA Crops Data, FMMP 2010, USGS DEM 90m, TBC3 Cal Basin Characterization Model, SFEI EcoAtlas, the Open Space Authority.

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SANTA CLARA VALLEY

Strategies for Protecting Wildlands and Natural Areas

Kathy Korbholz

Conservation efforts will focus in part on rare native habitats such as serpentine grasslands.

1. **Focus land conservation efforts in areas critical for the long-term viability of native species and biological communities and the ecosystem services they provide.**
   - **a.** Protect and manage biological communities that are rare or endemic to the Bay Area region, including native serpentine grasslands, riparian forests, sycamore alluvial woodland, and land within the boundaries of designated critical habitat for federally-listed species.
   - **b.** In coordination with the Valley Habitat Agency, pursue grant funding to protect and restore these and other areas identified as high priorities in the *Santa Clara Valley Habitat Plan*.
   - **c.** Protect, manage, and restore landscapes that are particularly important for ecosystem services such as carbon sequestration and groundwater recharge.
   - **d.** Engage with the Bay Area Ecosystems Climate Change Consortium and other conservation partners in scenario planning for climate adaptation, with the goal of developing a shared vision for coordinated land conservation and stewardship actions and, ideally, a regional climate adaptation strategy.

2. **Ensure the long-term viability and stewardship of waterways, wetlands, and ponds.**
   - **a.** Partner with the Santa Clara Valley Water District, Valley Habitat Agency, California State Parks, and Santa Clara County Parks and Recreation, the US Fish and Wildlife Service, the National Marine Fisheries Service, and the California Department of Fish and Wildlife to protect, restore, and manage waterways, riparian areas, wetlands, and ponds. Develop integrated plans to restore habitat for native fish and amphibians while improving water quality and protecting water supplies.
   - **b.** Protect and manage waterways below reservoirs that support or have the potential to support anadromous fish species such as steelhead and salmon. Integrate fish passage and in-stream habitat restoration projects in an enhanced Urban Open Space Program.
   - **c.** Model best management practices on Authority lands and demonstrate successful restoration projects.

3. **Protect and maintain connections between large open space parcels to provide large habitat blocks, ensure critical linkages, and provide climate resilience.**
   - **a.** Coordinate land acquisition plans and funding with partners to ensure a cohesive approach to land protection and connectivity; focus on protecting and managing important landscape linkages identified in regional planning efforts, including Coyote Ridge, Coyote Valley, and the Upper Pajaro River corridor.
   - **b.** Coordinate with the National Resource Conservation Service, Resource Conservation Districts, the California Rangeland Trust, the cities of San Jose and Morgan Hill, and Santa Clara County to develop and implement strategies that promote wildlife movement through working lands. This could include workshops on management techniques such as fencing, vegetation planting, and managing riparian areas.
   - **c.** Coordinate with transportation agencies, including the Santa Clara Valley Transportation Authority and CalTrans, on projects to enhance wildlife movement across highways and other barriers.
   - **d.** Partner with the Santa Clara Valley Water District, Valley Habitat Agency, California State Parks, Santa Clara County Parks and Recreation, The Nature Conservancy, and Midpeninsula Regional Open Space District to expand and connect existing protected areas and create large, resilient open space networks that can accommodate shifting patterns in vegetation and wildlife habitat in response to changing climate conditions.

e. Prioritize protection and management of natural terrestrial and aquatic areas that can serve as refugia for species facing a changing climate, including areas with microclimate and elevation gradients.

f. Incorporate climate considerations into the Open Space Authority's management and restoration plans, and employ long-term monitoring and adaptive management to ensure effectiveness under variable conditions.

4. **Provide leadership and resources for land stewardship to promote native species and habitats.**

   a. Participate in local and regional land use planning and policy projects to promote strong local plans that protect open space, biological communities, and species.

   b. Develop comprehensive resource management policies to guide stewardship and resource management activities on Open Space Authority properties.

   c. Further develop the Authority's GIS decision-support tools by creating a comprehensive inventory of natural and cultural resources on Open Space Authority properties, including updated fine-scale mapping of vegetation communities.

   d. Coordinate resource management planning and stewardship with neighboring property owners to develop shared management objectives and leverage financial resources.

   e. Explore development of new funding tools such as payments for ecosystem services and the use of conservation easements and management agreements as incentives to promote stewardship on private lands with important resources.

   f. Provide leadership, work closely with partners, and explore pilot projects to understand and apply these funding tools to protect and restore habitat.

   g. Work with the US Fish and Wildlife Service, California Department of Fish and Wildlife, Natural Resources Conservation Service, local Resource Conservation Districts, local government agencies, and non-governmental organizations to secure funding for habitat improvement projects such as pond maintenance and management of invasive plants and animals.

Derek Neumann

The Authority will work closely with partners to coordinate stewardship activities across jurisdictional boundaries.

Cait Hutnik

Partnerships with private and public landowners can support good land management practices that benefit native species and habitats.

h. Partner with the Natural Resources Conservation Service and Resource Conservation Districts to organize workshops on grazing management, invasive species management, erosion control, and other topics to benefit native species and habitats.

i. Support plant nurseries on Authority properties for the propagation of native plants to be used in restoration projects.

j. Continue developing the capacity of Authority staff to provide stewardship services on mitigation properties.

5. **Expand outreach and education programs to increase community awareness of the importance of wildlands and natural resources.**

   a. Participate in a range of community events to promote awareness of the County's native species and habitats.

   b. Explore partnerships and funding opportunities with schools and local universities to increase environmental education programs and facilitate science-based education and research projects on Authority properties, including partnerships with the San Jose Youth Science Institute, Camp Galileo, and similar programs.

   c. Provide educational workshops, including visits to Authority properties, for public officials and other decisionmakers to support informed decisions regarding funding and policies that affect open spaces in Santa Clara County.

   d. Develop educational materials to be available online and at preserve entrances describing the variety of conservation values and ecosystem services provided by the Authority's wildlands and natural areas, including native species and habitats, climate change, habitat connectivity, clean drinking water, crop pollination, flood control, and carbon sequestration.

   e. Provide ongoing training to Authority volunteers and docents about critical environmental issues for use in interpretive programs.

   f. Support research projects at all educational levels on Authority properties, and explore opportunities to expand the Authority's iNaturalist program and foster citizen science on Authority preserves.

CHAPTER 4 Water Resources

Goal and Guiding Principles

GOAL: Protect and restore water resources to benefit local communities and the environment, and to provide resilience to a changing climate.

GUIDING PRINCIPLES:

- Protect, manage, and restore critical watershed areas to sustain local water supply and quality, maintain habitat and environmental conditions, and reduce flood risk.
- Work closely with partners to coordinate watershed protection and restoration efforts across jurisdictional boundaries.
- Engage the community in watershed education and outreach activities.

Cait Hutnik

Investments in open space protection can reduce the need for costly built infrastructure.

The Open Space Authority is committed to protecting and restoring open space lands to ensure that they function as intact, healthy watersheds. In doing so, we aim to help sustain clean local water supplies, improve water quality, and reduce risk of downstream flooding. A direct connection exists between keeping open space lands intact and watershed health, yet ensuring the protection and restoration of our watersheds through informed land use decisions and adequate public investment in open spaces remains a challenge. By making prudent investments in watershed conservation, we can protect strategic open spaces that provide these essential watershed services and reduce the need to pay for costly built infrastructure.

Throughout the Bay Area, watershed and riparian ecosystems have largely been disrupted. Many natural landscape features that provide stability and support services to our riparian systems, also known as "green infrastructure", have been negatively impacted by urbanization. The loss of green infrastructure such as undeveloped floodplains, unpaved surfaces, resilient riparian corridors, and groundwater recharge areas have led to the creation of built substitutes including levees, storm drains, armored stream channels, and managed aquifer recharge ponds. While many of these built systems, also known as "gray infrastructure", are necessary, there are many outstanding opportunities within the Authority's jurisdiction to expand the role of green infrastructure to provide watershed services. For example, protecting watersheds lands can increasing groundwater recharge, subsequently enhancing local water supplies.

The integration of green infrastructure can provide multiple, large-scale benefits, and at the same time, potentially reduce the enormous costs for gray infrastructure.

Declining state and federal funding for water-related projects is prompting local agencies to seek integrated and cost-effective solutions to maintain water resources. The integration of green infrastructure can provide multiple, large-scale benefits, and at the same time, potentially reduce the enormous costs for gray infrastructure. Statewide, regional, and local initiatives like FloodSAFE California, Bay Area and Pajaro River Watershed Regional Water Management Groups, and Santa Clara Valley Water District's Safe, Clean Water & Natural Flood Protection Program are integrating new approaches that sustain and restore many of the natural processes that enhance water

resources and ecosystem health. The Soap Lake Floodplain project is an example of a green infrastructure project where protection of agricultural lands and natural habitats in the floodplain along the Upper Pajaro River reduces the potential for downstream flooding and the need for costly levees and stormwater infrastructure. This and other initiatives support Integrated Regional Water Management (IRWM), which seeks to ensure watershed-wide system flexibility and resilience by using a combination of built and green infrastructure solutions (see sidebar).

Core Strategies for Integrated Regional Water Management (IRWM)

1. Integrate land use and water management planning
2. Leverage natural watershed features
3. Adopt a "Best Mix" of green and grey infrastructure
4. Implement at a systems scale
5. Provide multiple benefits

Adapted from Bay Area IRWMP Coordinating Committee 2013

Watershed boundaries are geographic and not political, making regional collaboration critical. Fortunately, nearly all watersheds within the County originate here – meaning the residents and land managers of Santa Clara County are largely responsible for the health of our water resources. The Open Space Authority is committed to working with partners and landowners to steward critical watershed areas and promote the integration of green infrastructure into the built environment. By taking an IRWM approach with our partners, the Authority can help reduce costs to the public, enhance ecosystem health, and restore the natural services that are critical for the long-term provision of safe and clean drinking water, flood management, and habitat.

Important Areas for Water Resource Conservation and Stewardship

Water Supply, Recharge, and Storage

The Santa Clara Valley overlies two vast groundwater aquifers that supply water to the majority of the County. These aquifers are recharged with rainfall captured by our local watersheds and imported water that originates from the Sierra snowpack. Much of this water is temporarily stored by a network of reservoirs that release it to our Valley's creeks and recharge areas throughout the year, refilling our groundwater basins via in-stream or constructed groundwater recharge areas. As this water percolates down from the surface into the aquifers, it is naturally filtered and conveyed by the basins, reducing the costs for water treatment and delivery.

By 2035, Santa Clara County's projected demand for water will surpass supply during a normal water year, and drought year shortages could begin as soon as 2015 without additional investments in water supply reliability (SCVWD 2012). Uncertainty regarding the severity of climate change impacts on our water supply requires that we take action to ensure we are able to do more with less water. Although some threats to the reliability of our imported water are outside of our control, we can actively protect and enhance the reliability of our local water supply (see sidebar).

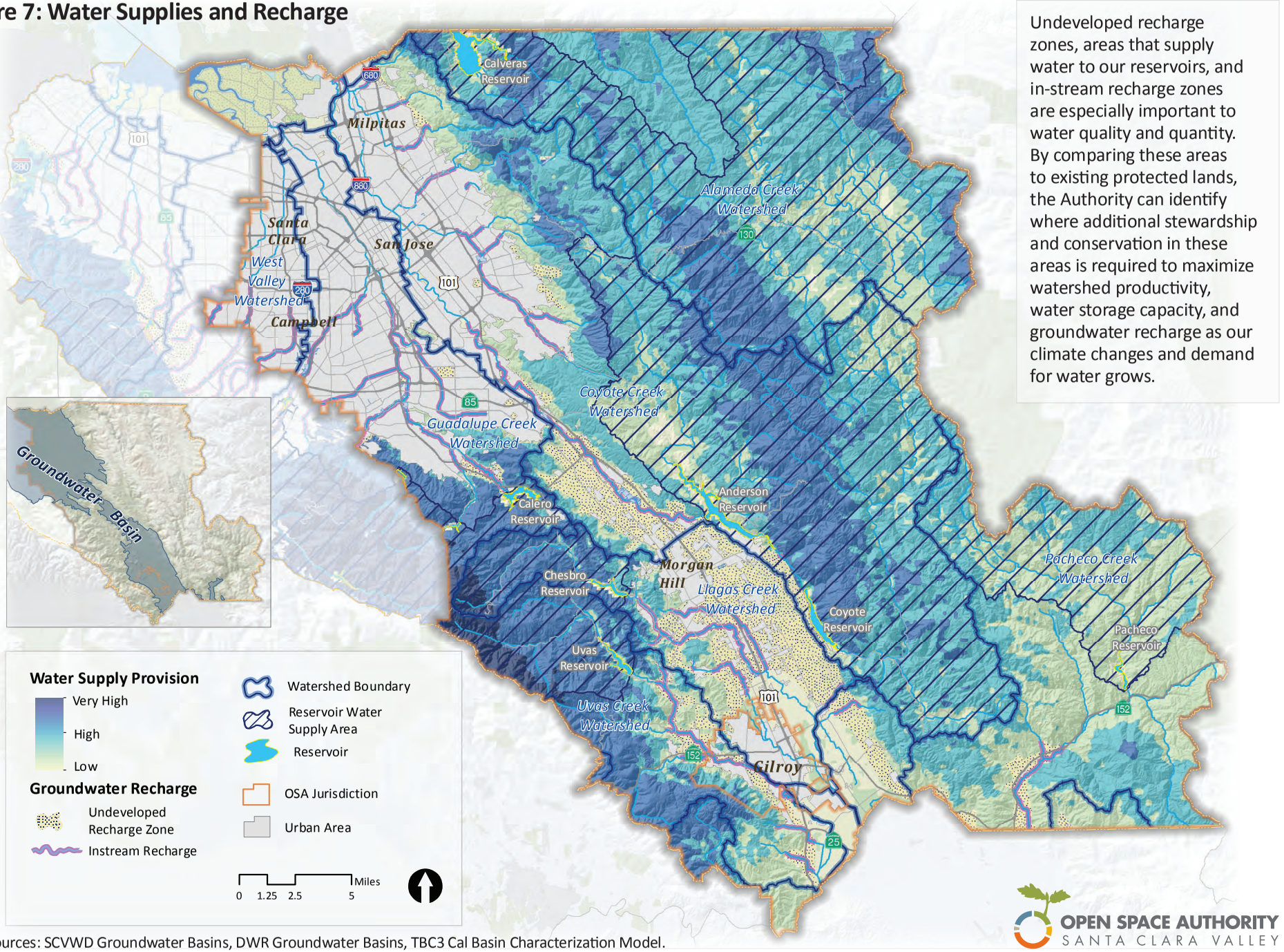
Clean water supplies

Watersheds, streams, and riparian areas not only support critical wildlife habitat and ecosystem health, they also capture clean, safe supplies of water. Approximately 50% of the County's water supply comes from watersheds within County boundaries, and nearly all of the area's water depends on local watersheds and aquifers for delivery, filtration, and storage.

With projected population growth, demand for water in the Bay Area is expected to increase by 22% by 2035, by which time the Bay Area water resources are projected to be insufficient (SPUR 2013a). Climate change will add even more stress and unpredictability to regional water supply.

In coordination with the Santa Clara Valley Water District (SCVWD) and other partners, the Authority will pursue the protection, restoration, and stewardship of watersheds, streams, and groundwater recharge areas that are critical to maintaining an adequate and safe water supply for the residents of Santa Clara County. **Figure 7** identifies important areas where the Authority can invest in open space to protect and enhance the reliability and health of our water resources. Key areas of rainfall percolation and aquifer recharge are on the Valley floor, particularly in the area

Figure 7: Water Supplies and Recharge



Data sources: SCVWD Groundwater Basins, DWR Groundwater Basins, TBC3 Cal Basin Characterization Model.

Cait Hutnik

The Calero Reservoir is used to replenish the groundwater that supplies much of the area's drinking water.

of Coyote Valley, the last remaining undeveloped groundwater recharge area for Silicon Valley. Important watershed areas for rainfall capture and water supply provision include the Upper Uvas and Llagas watersheds, which feed both the Chesbro and Uvas reservoirs, and the Upper Coyote Watershed to the east, which supplies the Coyote and Anderson Reservoirs.

The Authority will work with the SCVWD and other partners to promote stewardship and effective land management practices to protect open space and agricultural areas that maintain the landscape's natural ability to capture rainfall and recharge the groundwater basin. In addition, the Authority will work with SCVWD to ensure that stewardship of its reservoirs' watersheds maintains watershed productivity and reservoir capacity. In coordination with the SCVWD, the Authority will pursue protection and restoration of lands with headwater streams, major tributaries, and other water capture areas to protect and maintain natural services provided by healthy watersheds.

Many areas identified in the *Valley Greenprint* are under private ownership and support active ranching and farming operations. Although many of these working lands provide a suite of natural services to our residents, most landowners receive little if any financial support to continue maintaining and stewarding the health of these lands. The Authority is committed to working with its partners and willing landowners to pursue opportunities and programs that ensure these critical areas receive adequate support and protection. Securing grants for off-channel storage ponds, for example, can provide much-needed water for agricultural activities during dry months and can enhance habitat for wildlife.

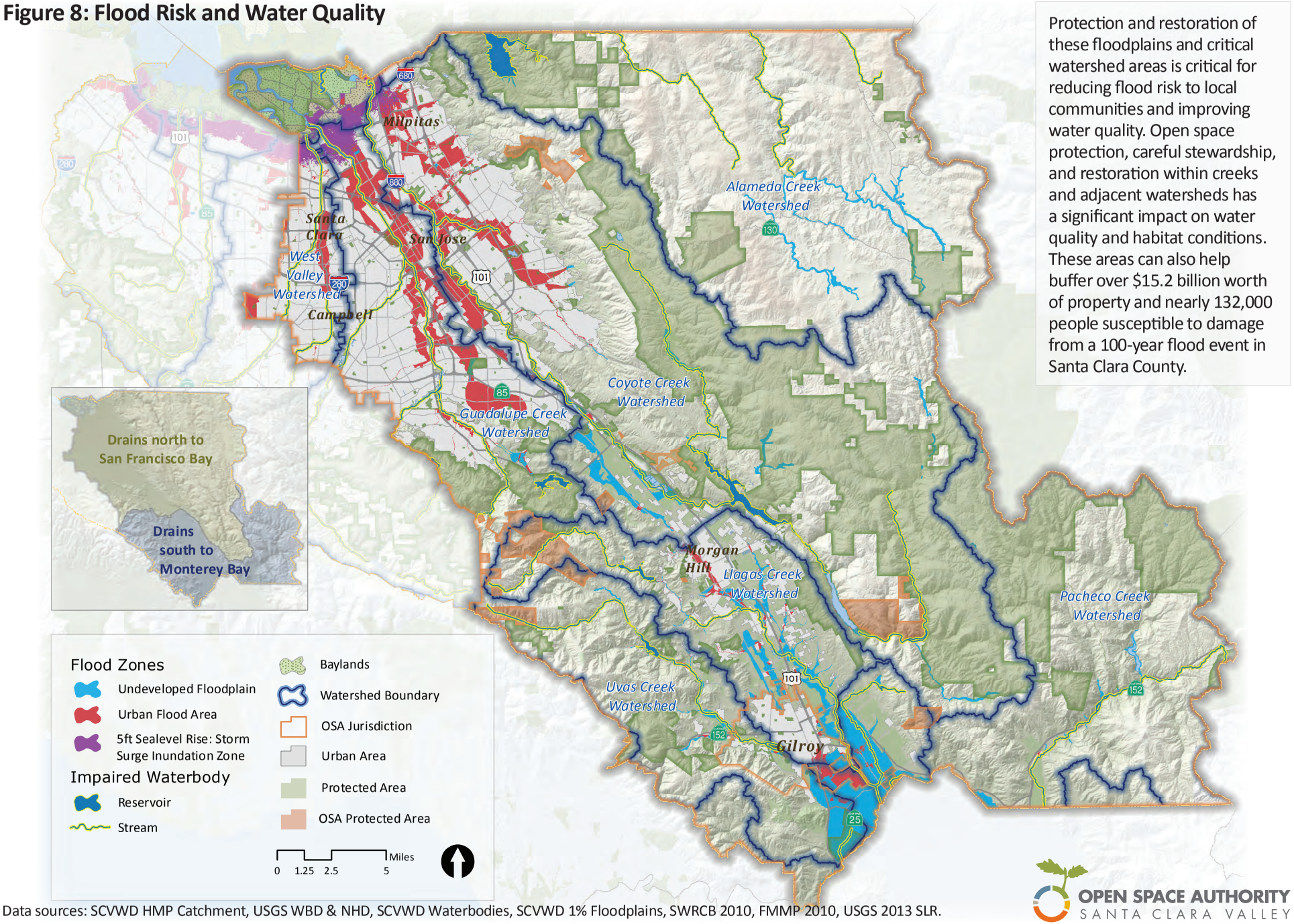
Flood Protection

Over $15 billion worth of property and more than 132,000 people are susceptible to flood damage in Santa Clara County, making it one of the most exposed counties in the state in terms of flood risk (FloodSAFE California 2013). Despite immense investment in flood protection – over a billion dollars over the last 30 years alone (SCVWD 2014) – sea level rise and more severe and unpredictable storms resulting from climate change will put our cities at even greater risk (Natural Resources Agency 2013). Protecting and restoring remaining floodplains and flood-prone areas before they are lost to development is necessary to reduce flood risk to local communities.

Prior to development, the majority of the Santa Clara Valley was used for agricultural production and was often subject to seasonal flooding. However, as farms and orchards were developed to support permanent structures and cities, levees, floodwalls, and even reservoirs were built to reduce risk of damage. As a result, many areas that were once active floodplains are now heavily urbanized, and if flooded, would cause significant economic loss. When allowed to occur in appropriate areas, flooding can provide enormous benefits and risk reduction to downstream areas. Flooding is natural process that enables streams to fan out waters, dissipating energy over large areas rather than staying in-channel. This allows the water to slow down, drop out sediment, and recharge groundwater, reducing damage to stream channels and urban areas downstream.

Figure 8 identifies areas within the County where remaining floodplains can be protected to reduce downstream flood risk. These areas include large agricultural floodplains upstream from urban areas, notably the Coyote Valley, San Martin area, and eastern and southern Gilroy.

Figure 8: Flood Risk and Water Quality



Protection and restoration of these floodplains and critical watershed areas is critical for reducing flood risk to local communities and improving water quality. Open space protection, careful stewardship, and restoration within creeks and adjacent watersheds has a significant impact on water quality and habitat conditions. These areas can also help buffer over $15.2 billion worth of property and nearly 132,000 people susceptible to damage from a 100-year flood event in Santa Clara County.

Data sources: SCVWD HMP Catchment, USGS WBD & NHD, SCVWD Waterbodies, SCVWD 1% Floodplains, SWRCB 2010, FMMP 2010, USGS 2013 SLR.

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Flooding in agricultural areas is less costly than in urban areas. Agreements with landowners can be negotiated that provide compensation in exchange for allowing flooding to occur on agricultural or other undeveloped properties. A flooding easement could, for example, prohibit levee construction on farmland and compensate the landowner for allowing his or her lands to be flooded during extreme storm events. Undeveloped or natural floodplains adjacent to streams and wetlands can be restored to provide additional flood protection while also providing increased groundwater recharge, water filtration, and habitat value. The Authority will work with its partners to identify new tools, approaches, and opportunities to ensure the protection of our remaining floodplains.

Water Quality

The State Water Resources Control Board identifies over 228 miles of streams as "impaired" by pollution (SWRCB 2013) (**Table 2**), including nearly all of the main stem streams in Santa Clara County. Land use practices that increase storm water runoff into creeks or reduce channel stability can result in high sediment and runoff, carrying heavy metals or non-point source pollutants into streams and wetlands. These land use practices can pose severe threats to water quality and riparian species.

Through focused land acquisition, the Authority and our conservation partners can protect open space and reduce the potential for pollution and water contamination that stem from development and urbanization. In addition, the Open Space Authority will ensure that land stewardship and agricultural practices on the lands it owns and manages are protective of water quality, and will actively pursue partnerships that promote resource stewardship.

Agencies such as the Natural Resources Conservation Service (NRCS) and Resource Conservation Districts (RCDs) can provide technical and financial assistance to private landowners for resource stewardship and water-safe land use practices. The Authority can use lands under its ownership to test and demonstrate innovative and cost-effective techniques, providing workshops and guidance to landowners on practices to conserve water or improve water quality.

Derek Neumann

Natural floodplains adjacent to streams can provide flood protection as well as groundwater recharge, water filtration, and habitat value.

Table 2: Impaired water bodies of Santa Clara County and pollutant type (SWRCB 2013, Mendenhall 2014, Central Coast Regional Water Quality Control Board 2014).

Water body	Mercury and other metals	Pesticides, pathogens, organics	Low dissolved oxygen	Nutrients	Sediment	Toxicity	Turbidity	Water pH	Water temperature	Trash
Alameda Creek		X								
Alamitos Creek	X									
Almaden Lake	X									
Almaden Reservoir	X									
Anderson Reservoir	X	X								
Arroyo Del Valle		X								
Arroyo Mocho		X							X	
Calaveras Reservoir	X									
Calero Reservoir	X									
Carnadero Creek		X	X	X	X		X	X		
Chesbro Reservoir	X									
Coyote Creek (Santa Clara County)		X								X
Furlong Creek		X		X	X		X			
Guadalupe Creek	X									
Guadalupe Reservoir	X									
Guadalupe River	X	X								X
Llagas Creek (above Chesbro Reservoir)		X						X	X	
Llagas Creek (below Chesbro Reservoir)		X	X	X	X		X			
Los Gatos Creek		X								
Matadero Creek		X								X
Miller Canal		X		X	X			X	X	
Pacheco Creek		X	X	X	X		X			
Pajaro River	X	X	X	X	X		X	X		
Permanente Creek	X	X				X				X
San Benito River	X	X			X	X		X		
San Felipe Creek		X								
San Francisco Bay, South	X	X								
San Francisquito Creek		X			X					X
San Tomas Aquinas Creek										X
Saratoga Creek		X								X
Silver Creek (Santa Clara County)										X
Stevens Creek		X				X			X	X
Stevens Creek Reservoir	X	X								
Tequisquita Slough		X		X	X			X		
Uvas Creek (above Uvas Reservoir)		X						X	X	
Uvas Creek (below Uvas Reservoir)		X	X	X	X		X			
Uvas Reservoir	X	X								

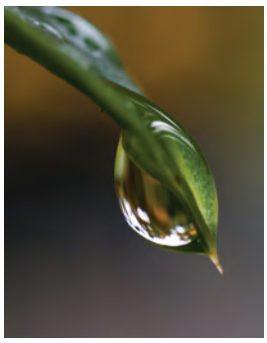
Urban Creeks

Urban creeks and nearby uplands provide open space and recreational opportunities for city residents, while also providing the opportunity to connect, restore, and expand the riparian corridors and improve watershed health. Although the scale of analysis within the *Valley Greenprint* does not identify specific locations for urban creek enhancement, the Authority is committed to working with its partners to identify opportunities for green infrastructure enhancement and integration in urban areas.

The Open Space Authority will explore expanding its Urban Open Space Program to include urban creek restoration and floodplain protection projects that would improve water quality, reduce pollution, reduce flood risk, increase water retention and infiltration, and improve habitat for native species. The Open Space Authority's role in urban creeks can also include partnerships and funding opportunities for the development of educational, interpretive, and citizen science programs to improve urban waterways in particular and watershed health in general. By working with SCVWD, cities, and other partners the Authority can identify, protect and restore urban waterways to enhance their ability to function as green infrastructure. Key funding sources for these projects could include the SCVWD, Federal Emergency Management Agency (FEMA), United States Environmental Protection Agency (USEPA), cities, and local non-governmental organizations.

Strategies for Protecting Water Resources

1. **Prioritize conservation and stewardship projects that link protection and enhancement of water supplies with flood control, water quality, groundwater recharge, and climate resilience.**
   - **a.** Initiate and participate in joint projects with the Santa Clara Valley Water District, the San Francisco Public Utilities Commission, and others to protect water resources, particularly in upper watersheds, groundwater recharge areas, urban areas, and undeveloped floodplains.
   - **b.** Advocate policies and use land protection measures that prevent urban development in groundwater recharge areas, particularly the Coyote Valley.
   - **c.** Encourage cities and public agencies to integrate protection of wetlands, floodplains, and riparian areas into land use and capital planning and mitigation projects to increase resilience to climate change impacts.
   - **d.** Expand the Authority's Urban Open Space Program guidelines to promote restoration of urban streams and riparian habitats, groundwater recharge areas, and floodplains.
   - **e.** Implement restoration projects in urban areas to reduce impervious surfaces and urban runoff, slowing water and increasing opportunities for infiltration into groundwater basins.
   - **f.** Explore pilot projects to increase local water supplies through construction of small-scale managed aquifer recharge projects such as the RCD's Bokariza project in the lower Pajaro River watershed.
   - **g.** Develop programs with the Natural Resources Conservation Service, Resource Conservation Districts, and other partners to implement watershed protection, stewardship, and restoration programs on working farms and ranches through conservation easements, water-related ecosystem service payments, or performance-based management agreements.
   - **h.** Develop fuels management plans and initiatives to reduce potential for erosion, landslides, and sedimentation following a catastrophic fire.



cc William Warby

Protecting water supplies includes water quality, groundwater recharge, flood control, and climate resiliance.

Derek Neumann

The Open Space Authoirty will prioritize projects that link protection and enhancement of water supplies with flood control, water quality, groundwater recharge, and climate resilience.

2. **Participate in watershed-level planning efforts to identify and coordinate regional priorities for water resource protection.**
   - **a.** Participate in the Bay Area and Pajaro Integrated Regional Water Management planning efforts to identify opportunities for protecting water resources. Seek partnerships with the SCVWD, Pajaro River Flood Prevention Authority, the Association of Bay Area Governments, the San Francisco Estuary Institute, the San Francisco Estuary Partnership, the San Francisco Bay Bird Observatory, Trout Unlimited, The Nature Conservancy, and other organizations to fund and implement priority projects.
   - **b.** Participate in Santa Clara Valley Water District's water resources watershed master planning efforts to identify and prioritize land conservation and stewardship projects and investments, including opportunities for watershed restoration on Authority preserves.
   - **c.** Engage in watershed-based conservation partnerships including the Upper Alameda Watershed Partnership and the Upper Pajaro Conservation Collaboration. These partnerships aim to identify non-regulatory tools, strategies, and financial incentives to promote watershed conservation and stewardship in these agricultural landscapes.
   - **d.** Promote coordination between regulatory agencies and watershed stakeholders to facilitate priority watershed restoration projects, including larger riparian buffers or setbacks in both urban and rural settings. Explore feasibility of expanding the Integrated Watershed Restoration Program for San Mateo and Santa Cruz Counties to include Santa Clara County to streamline permitting and use of grant funds for watershed restoration projects.
   - **e.** Support efforts of the NRCS and RCDs to fund local watershed coordinator position(s) and secure grant funds for restoration.
   - **f.** Advocate for county and city land use planning and policies that protect water resources through protective zoning and strong riparian protection ordinances.

3. **Promote the use of new tools, partnerships, and resources to protect water resources and services through public and private investments.**
   - **a.** Complete and build on efforts such as the *Healthy Lands & Healthy Economies* initiative (Batker *et al.* 2014) to quantify the economic value of open spaces and working lands to protect local groundwater supplies, reduce water treatment costs, and provide flood control.
   - **b.** Develop specific case studies by watershed (for example, the Coyote watershed and Santa Clara Valley aquifer) that identify multi-benefit water resource conservation projects and potential new funding sources.
   - **c.** Seek funding from the NRCS Conservation Innovation Grant program and other sources to evaluate emerging markets for water quality improvements, wetland restoration, habitat conservation, and carbon sequestration.
   - **d.** Explore use of market-based incentives for protecting strategic water resources in the Santa Clara Valley though development of a pilot ecosystem services credit trading and banking project.

4. **Protect and restore water resources on Open Space Authority properties.**
   - **a.** Ensure that leases and management agreements for the Authority's agricultural tenants are written to protect water resources from depletion, pollution, development, and fire, including promotion of organic operations to limit the use of pesticides and fertilizers.
   - **b.** Ensure that management plans for Authority lands identify opportunities to improve water quality and aquatic habitat (for example, by decommissioning unnecessary roads, upgrading culverts, or restoring ponds and riparian areas).
   - **c.** Demonstrate and interpret watershed restoration programs and projects on Open Space Authority preserves. Work with the NRCS, RCDs, and the SCVWD to develop public workshops and training about watershed protection techniques and funding sources.
   - **d.** Seek funding and partnerships for pilot projects on Open Space Authority preserves to demonstrate effectiveness of new tools and techniques for water capture and recharge, such as off-stream ponds and managed recharge basins. Small-scale projects located throughout upper and middle watersheds can increase water supplies and reduce the need for downstream flood protection.

Stephen Joseph

The Open Space Authority can demonstrate best practices for water resources on its own properties, including pilot projects that feature new tools and techniques.

5. **Engage the community in watershed research, education, and outreach activities.**
   - **a.** Seek funding and partnerships with the NRCS, RCDs, and SCVWD to develop interpretive materials and watershed education programs for use by Authority staff and volunteers on Authority properties.
   - **b.** Encourage local schools and watershed educators to utilize Authority lands in their programs, and seek funding and partnerships with the NRCS, RCDs, and SCVWD to support those programs.
   - **c.** Promote research and citizen science on Authority lands to collect information about watershed health.
   - **d.** Feature water conservation and watershed restoration projects funded through US Department of Agriculture Natural Resources Conservation Service programs such as the Wildlife Habitat Incentive Program, Environmental Quality Incentives Program, and other grants to encourage local use of those funding sources.

CHAPTER 5 Farms, Ranches, and Other Working Lands

Goal and Guiding Principles

GOAL: Conserve farms, ranches, and other working landscapes to sustain the economic and environmental viability of local agriculture.

GUIDING PRINCIPLES:

- Permanently protect farmland and rangelands most critical to overall agricultural viability.
- Engage in land use planning efforts to stem conversion of farmland at the urban edge and to promote a healthy and environmentally sustainable agricultural business sector.
- Manage agricultural land uses on Authority properties to optimize natural resource protection and viability of local agriculture.
- Educate the public about opportunities to engage with and benefit from local agriculture.
- Promote community gardens and agricultural parks.

With its rich soils and moderate climate, the Santa Clara Valley was one of the most productive farming regions in the nation from the mid-1800s to the mid-1900s. The orchards of the legendary Valley of the Heart's Delight produced cherries, apricots, and prunes that were processed and shipped all over the country, meeting about a third of the nation's demand (American Farmland Trust *et al.* 2011). The fertile farmland extending north to the San Francisco Bay also supported extensive vegetable farming, field crops, dairies, nurseries, and flower businesses.

William K. Matthias

45% of the County's farmland was lost to development in the last 20 years, and half of what remains is at risk of development in the next 30 years.

Since the 1950s, development and sprawl have claimed many of these orchards and fields. Almost all of the farmland in the northern part of the County and much in the mid-part of the County has been lost to urban development. In an accelerating trend, farmland has declined in the County by 45% in the last 20 years alone (California Farmland Conservancy website 2014). This trend is expected to continue, as Santa Clara County is the fastest-growing county in the region. Of the remaining 27,000 acres of farmland that remains, approximately half is considered at risk of development over the next 30 years (Greenbelt Alliance 2012).

Still, thanks largely to the extensive rangelands in the eastern part of the County, nearly half of the County's land area remains in rangeland and productive farmland (**Figure 9**). Due to the great diversity in production areas, growers across the County produced almost 40 different crops including fruits, vegetables, and livestock products, as well as nursery products, wine grapes, seed crops, forage crops, and timber. The most valuable of these are nursery crops, mushrooms, and other vegetables; countywide, agriculture in 2012 had a direct gross value of nearly $261 million, an increase of 5% from 2011 (Santa Clara County 2012). Considering indirect sales and other agricultural support industries, the total value of agriculture to the local economy approached half a billion dollars, and provided nearly 5,000 on-farm and related agricultural sector jobs (Scheer 2014).

Jordan Plotsky

In 2012, vegetables and other Santa Clara County crops grossed nearly $261 million.

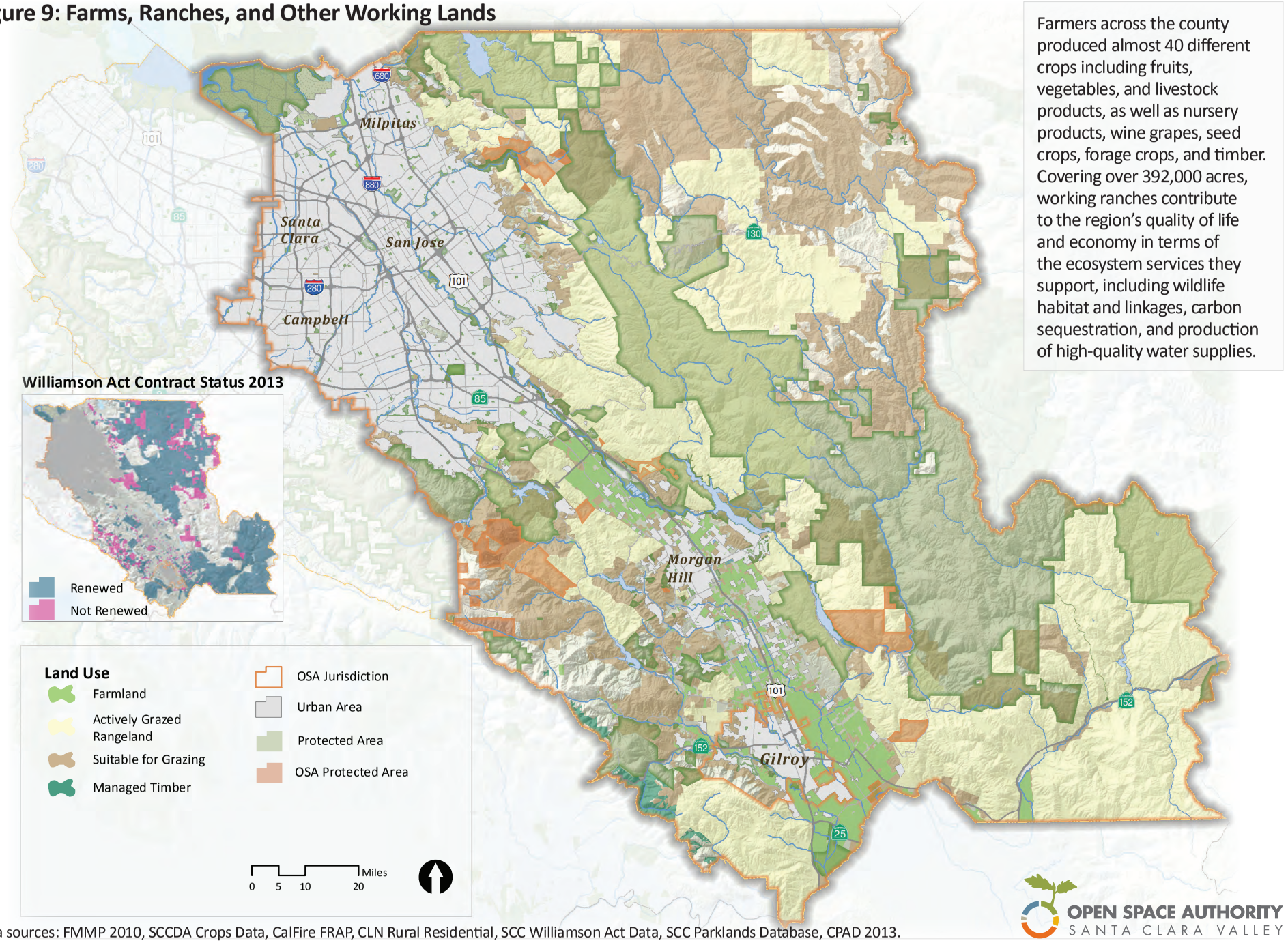
The County's rangelands are threatened by development and changes in the economics of ranching. Santa Clara County agriculture faces many challenges, many of which are typical of small and medium-scale operations that characterize the area: cumbersome and conflicting regulations, challenging permit requirements, an aging farming population with children opting out of farming, and marginal profitability. Other challenges are unique to this area, such as a likely increase in traditionally low water rates and the number of small and disconnected agricultural parcels – 75% of the County's farms are 50 acres or less in size, with over 40% smaller than 10 acres.

Skyrocketing land values and development pressures continue to put local agriculture and farmers and ranchers at risk. Parcels intended for development versus agricultural operations typically command far greater prices per acre, and drive speculative investments in real estate. Indeed, it is widely accepted that many agricultural landowners throughout the County have chosen not to make necessary investments in agricultural infrastructure, anticipating that their properties will be rezoned for development purposes and can be sold for significantly higher prices. Development pressures are compounded by the potential displacement of farmland by planned highway widening projects and by the California High Speed Rail. The proposed High Speed Rail alignment places future stations in the midst of prime farmland outside of Gilroy and Morgan Hill, which could lead to further urbanization and impacts to remaining agricultural lands.

Cait Hutnik

Many of the productive farmlands and orchards of the Valley of the Heart's Delight have been replaced by development, particularly in the north part of the County. However, many productive farms remain in the Coyote Valley and the southern part of the County.

Figure 9: Farms, Ranches, and Other Working Lands



Farmers across the county produced almost 40 different crops including fruits, vegetables, and livestock products, as well as nursery products, wine grapes, seed crops, forage crops, and timber. Covering over 392,000 acres, working ranches contribute to the region's quality of life and economy in terms of the ecosystem services they support, including wildlife habitat and linkages, carbon sequestration, and production of high-quality water supplies.

Data sources: FMMP 2010, SCCDA Crops Data, CalFire FRAP, CLN Rural Residential, SCC Williamson Act Data, SCC Parklands Database, CPAD 2013.

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SANTA CLARA VALLEY

Important Areas for Farms, Ranches, and Other Working Lands

The County's food system is comprised of a number of elements, including production, processing, shipping, retail, and waste and recycling. While all of these pieces are necessary to support the economic viability of local agriculture, the key role for the Authority as a leader in land conservation is in the production aspect of the food system. The Authority will focus its efforts to help protect the most important remaining farmlands and rangelands where production occurs – and where it can be most effectively sustained in the long term.

Farmlands

Given the extensive loss of farmlands in the County, all of the remaining farms and areas with rich, prime soils may be considered precious and irreplaceable. Using criteria from the California Farmland Conservancy Program and the Natural Resources Conservation Service Farm and Ranch Land Protection Program, the Authority identified key farmland conservation priorities for protection (**Figure 10**). These areas represent those farmlands that have the best combination of location, size, proximity to other large blocks of farmland, soil quality, water supplies, cultivation history and crop production potential, and many other factors. Five key landscapes emerged from this farmlands analysis that will be especially important to sustain the economic viability of agriculture.

Coyote Valley. Located between San Jose and Morgan Hill, the 7,400-acre valley has outstanding natural resource and agricultural values and faces significant development pressure. The northern third of the valley was incorporated into the City of San Jose in 1983, and much of this area is designated for light campus industrial development. San Jose's General Plan designates the middle third as urban reserve for future growth, and the

Stuart B. Weiss

Despite significant development pressure, agriculture remains the primary land use in Coyote Valley. This area provides unique opportunities for greenbelts that maintain agricultural viability and provide a variety of environmental benefits.

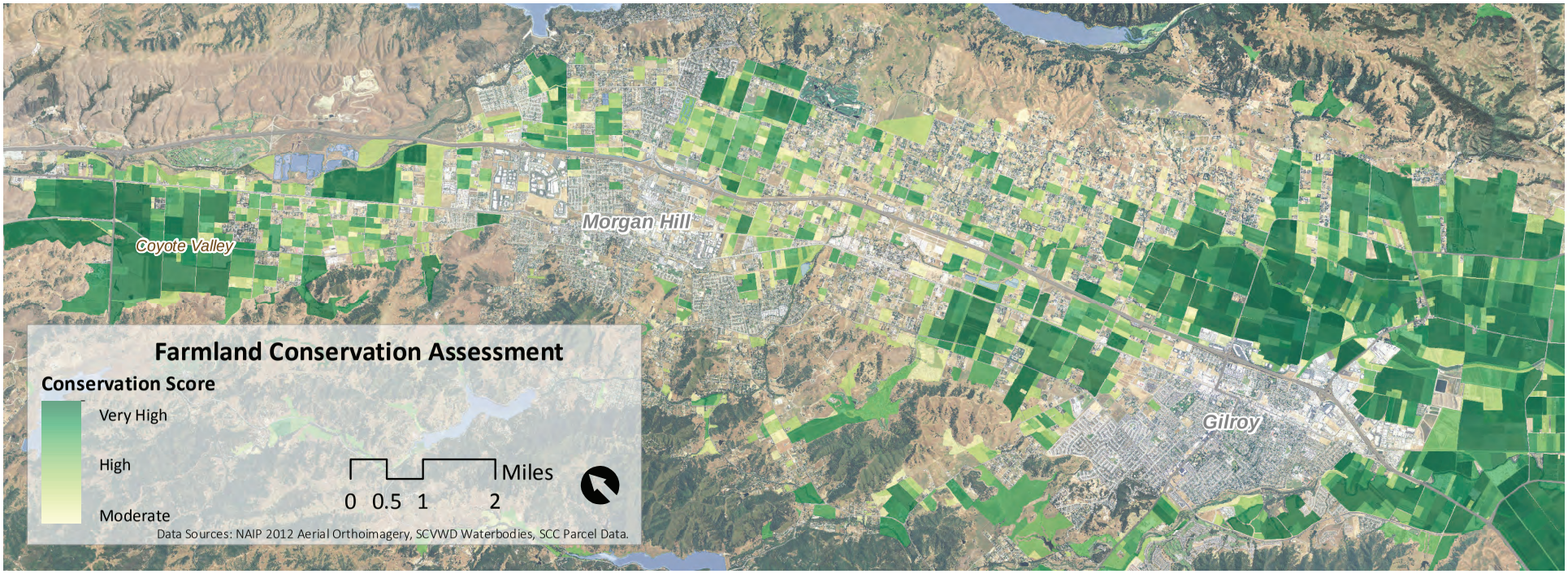

Figure 10: Farmland Conservation Assessment

Over 20,000 acres of the county's farmland was lost to development in the past 20 years, and half of the remaining 27,750 acres is at risk in the next 30 years. Protecting this remaining farmland is important to support the local agricultural economy and to provide communities with access to locally grown foods. While all of the county's remaining farmland is critical for these purposes, the Farmland Conservation Assessment identifies regional priorities where the Authority and partners can focus conservation efforts to promote agricultural viability.

Data sources: NAIP 2012 Aerial Orthoimagery, SCVWD Waterbodies, SCC Parcel Data.

Derek Neumann

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SANTA CLARA VALLEY

southern third as greenbelt, although this area is largely fragmented with homes on relatively small rural lots. This is also an important groundwater percolation zone, which would be threatened by urban development.

Still, agriculture remains the primary land use here, where production includes orchards, row crops, field crops, mushroom facilities, and nursery production. Coyote Valley, historically an orchard area, still supports some of the largest plantings of cherries as well as a large truck farm, extensive field crops, and a cluster of Asian vegetable farms. Greenhouses formerly used for flower production are now being used to grow Chinese vegetables.

Our agricultural heritage contributes to the region's quality of life.

Coyote Valley has been the subject of a number of focused planning efforts in recent years. *Coyote Valley: Sustaining Agriculture and Conservation*, a 2012 feasibility study led by Sustainable Agriculture Education (SAGE) and funded in part by the State Coastal Conservancy, outlines a range of strategies to promote resource protection and increase agricultural production in the valley, including conservation easements, legislation that protects farmland at the urban edge, education about and restored funding for the Williamson Act (see sidebar), and general plan updates (SAGE 2012). The Authority was identified as a key stakeholder to pursue land conservation projects with willing sellers, and to participate in an interagency effort along with the Natural Resources Conservation Service, Resource Conservation District, UC Cooperative Extension, SAGE, and other partners to secure funding and incentives for participating landowners to invest in new agricultural infrastructure and on-farm conservation projects.

Williamson Act Contracts

Established by the State of California in 1965, the Williamson Act allows landowners to pay lower property tax rates in exchange for keeping their land in agricultural production for a minimum of 10 years. This tax break makes farming and ranching more financially feasible, and helps landowners resist the temptation to sell to developers.

Until 2009, county governments were partially reimbursed by the state for the lost tax revenue. Santa Clara County has continued to grant Williamson Act contracts despite the lack of state subvention funds.

In 2013, almost 62% of Santa Clara County's agricultural lands (8,537 acres of farmland and 210,087 acres of rangeland) were under Williamson Act contract. These areas are mostly located in the the foothills of the Diablo Range.

Ensuring continued funding for Williamson Act contracts is an important part of maintaining the rural character and agricultural heritage of the Open Space Authority's jurisdiction.

Morgan Hill / Gilroy Area. This area includes numerous small to medium-sized agricultural parcels and currently supports diverse production on its prime soils, from one-acre family farms that run small community supported agriculture programs to large commercial enterprises. It includes many small parcels and hobby farms in the San Martin area, and larger commercially productive areas west of Highway 101 and in the southeast quadrant of Morgan Hill. These farms face speculative development pressure as the City of Morgan Hill is proposing to annex nearly 759 acres in the area southeast of the city.

Maintaining the long-term viability of agriculture in this area is complicated by the number of small parcels, and will require strong partnerships and use of many conservation tools. Through its Urban Open Space Program, the

Derek Neumann

Agriculture in the Santa Clara Valley ranges from row crops to orchards to small hobby farms. In 2013, farmers produced over 40 different crops.

Authority can promote and fund community gardens, agricultural parks, and urban farms in southern Santa Clara County. Should Gilroy choose to join the Authority's jurisdiction, these programs can be expanded to help protect that community's important farms and agricultural resources. The Authority will continue to encourage strong general plans, strict urban growth boundaries, and protective agricultural protection policies, and will explore opportunities to work in partnership with the cities to implement effective agricultural mitigation programs. Working with cities and regional conservation partners, the Authority will explore new tools such as the creation of a local agricultural enterprise zone to incentivize farmland protection and value-added farm enterprises in exchange for tax benefits.

Santa Cruz Foothills. Characterized by steep-sided valleys with rich, alluvial soils, the foothills along Watsonville and Day Roads include a number of scenic farms, orchards, nurseries, and vineyards. As Uvas Creek flows from the foothills it opens into a broad valley that supports larger field and commercial row crop operations.

Along with conservation easements, the Authority has the opportunity to help promote the region's agricultural history and support regional marketing initiatives by promoting agritourism through activities such as a Farm Trails program, branding for locally grown foods, and U-pick operations.

East and South of Gilroy. The County's most extensive farming area, the lands between Gilroy, the Pajaro River, and the foothills of the Diablo Range, consist of highly fertile, deep soils. Here, large-scale commercial agriculture includes 97% of the County's seed crops, 87% of the vegetable crops, and over 50% of both floral and nursery crops. This area is also important for the production of specialty greens for the pre-pack market.

The Authority can best protect agricultural operations in this area by working on large-scale agricultural conservation easement projects. This will also help protect a critical groundwater recharge area as well as much

Cait Hutnik

Protection of farms and working lands at the edge of our cities can provide multiple benefits for natural and human communities.

of the Upper Pajaro River's floodplain. There may be opportunities to work with The Nature Conservancy, Flood Prevention Authority, Silicon Valley Land Conservancy, and other partners to assist with implementation of agricultural mitigation programs in this area. Partnerships with Resource Conservation Districts (RCDs), land trusts, UC Cooperative Extension, and other conservation partners can help farmers and ranchers with agricultural and natural resource protection projects.

Pacheco Valley. Located in the southeast corner of Santa Clara County, Pacheco Valley is a diverse agricultural landscape with many small, scenic farms located along Pacheco Creek, as well as a few large commercial operations. The Authority can pursue conservation easements to protect the valley's agricultural values and help maintain key linkages for wildlife movement. The Authority will also explore partnerships with organizations like the Natural Resources Conservation Service (NRCS) and Loma Prieta RCD to promote and incentivize conservation projects that benefit agricultural operations and protect the environment, such as hedgerows, sediment basins, and cover crops.

The Rural-Urban Interface

Much of this work will focus at the urban edge of our cities, where agricultural protection provides multiple conservation and community benefits. Protection of agricultural greenbelts in these interfaces helps to ensure the compact and efficient growth of our cities, a critical part of the strategy outlined in *Plan Bay Area* to reduce greenhouse gas emissions by reducing sprawl (ABAG 2013). Greenbelts help stabilize land use and preserve the scenic views that define the distinct character of each community, and they offer promising opportunities for marketing and agritourism. Most importantly, urban-edge agriculture, including community gardens, provides residents access to healthy, locally grown foods.

Urban-edge agriculture faces a number of challenges: development pressure, speculative land value, conflicts with urban neighbors, increased high speed traffic on rural roads, and disinvestment in agricultural infrastructure. Through its Urban Open Space Program, the Authority can play a critical role in the link between urban and rural lands. The Authority can align efforts to protect natural resources, agricultural sustainability, and livable communities by protecting the remaining agricultural land base, and by helping promote opportunities to expand markets for food grown close to urban centers. The Authority will continue to work with conservation partners to ensure the protection of urban-edge agriculture. The strong policies of the Santa Clara County Local Agency Formation Commission (LAFCO) can help contain sprawl by promoting organized growth and preventing development in agricultural preserves. The Authority can help implement these policies. The creation of agricultural enterprise zones and implementation of effective agricultural mitigation programs may also benefit these urban-edge farms.

Rangelands

Grasslands and oak savannas cover nearly 400,000 acres in the Diablo Range, and support a thriving livestock industry that dates back to the Spanish colonial period in the 1700s. In 2012, the region's rangelands generated over $6 million for the local economy through livestock grazing. They also contributed to the region's quality of life and economy in terms of the ecosystem services they provide, including wildlife habitat and linkages, carbon sequestration, and production of high-quality water supplies. Rangelands are increasingly at risk of development due to mounting competition for land and water resources, elimination of Williamson Act payments, slim profit margins, and fewer young ranchers getting into the business. Protecting the region's rangelands will require public conservation investments to preserve the land base, as well as new tools, incentives and cost-share programs to support members of the ranching community who have the skill and knowledge base necessary to effectively manage grasslands.

The Authority will take a regional approach to help ensure that rangelands are protected and well managed across the landscape, on both public and nearby private lands. Using information from the Department of Conservation's Important Farmland Mapping and Monitoring Program (FMMP), the Authority partnered with the Cattlemen's Association to identify rangelands where livestock operations presently occur, as well as areas where grazing could be a suitable resource management tool. The Authority will focus land protection efforts in areas that have the highest conservation values for wildlife, water resources, recreation, and other resources, and will work with willing sellers to purchase or secure conservation easements over strategic properties. Tax credit or incentive programs can reward landowners in these areas who voluntarily preserve their land (or the agricultural use of their land) for a fixed term. The Authority can promote the availability of these programs, including Williamson Act contracts, to neighbors and landowners.

Stuart B. Weiss

By working closely with conservation partners and the ranching community the Authority can support good management of public and private grasslands.

Of course, grasslands and rangelands transcend land ownership boundaries and jurisdictions. The Authority is committed to working closely with our conservation partners and the private ranching community to support good management of grasslands on private lands. Through these partnerships, and by encouraging the use of stewardship incentives such as NRCS grants, we can help foster a generation of professional land managers in the private sector who can in turn effectively help manage public lands through grazing licenses and leases.

Effective land management is necessary to protect and improve the quality of rangelands. The Authority works in close partnership with ranchers on more than 5,000 acres of protected lands to maintain grassland biodiversity, improve habitat for rare species, and reduce wildfire risk. On Coyote Ridge, for example, grazing is used to manage and restore populations of the Bay Checkerspot Butterfly by reducing weeds that would otherwise outcompete this rare butterfly's native host plants. Grazing is a practical and inexpensive alternative to other weed removal methods, such as controlled burns, herbicide treatments, and mechanical removal. The Authority takes advantage of grants and other incentive programs to stretch limited funding for stewardship: many rangeland stewardship projects on Authority properties were funded in part by the NRCS, an agency that provides technical support and cost-share programs for riparian fencing, pond enhancement, and many other range improvements.

The Authority will work with conservation leaders throughout the region and state to develop and pilot new payment for ecosystem service programs.

New funding sources for rangeland conservation and management may emerge in the next few years. Increased regulations for clean water and reduced greenhouse gas emissions, for example, may lead to new market-based solutions, including payment for ecosystem service programs for water quality or carbon sequestration. The Authority will work with conservation leaders throughout the region and state to develop and pilot new payment for ecosystem service programs. In combination with cost-share programs, payments to farmers and ranchers to maintain and enhance the natural services their lands provide – carbon sequestration, water quality, and flood protection – protect the environment and help ensure the economic viability of the agricultural community by offsetting land management and production costs.

The Open Space Authority is taking a leadership role in identifying and preserving the region's most important farmland and rangeland. In collaboration with farmers and ranchers, agricultural organizations, natural resource agencies, and local, regional and state initiatives, the Authority is identifying ways to support the environmental and economic viability of the agricultural sector. This will require creative land protection tools that go beyond fee-simple purchase to help make agriculture economically viable and protect these working lands. As a land management agency, the Authority will continue to set a high standard for stewardship of its own working lands to achieve goals of both natural resource protection and sustained agricultural production.

Stephen Joseph

The Open Space Authority will explore new programs and partnerships that support farmers and ranchers who maintain and enhance the natural services their lands provide, to both protect the environment and help ensure the economic viability of agriculture.

Strategies for Protecting Farms, Ranches, and Other Working Lands

Kathy Switky

The Open Space Authority will explore new tools that help make farming viable for future generations.

1. **Protect farms and ranches through fee purchase, conservation easements, and other incentives.**
   - **a.** Partner with local and regional conservation organizations to secure funding for regionally significant farm and ranch protection projects with a focus on (1) farms and ranches that demonstrate long-term economic viability and operational adaptability, and that provide multiple environmental benefits and (2) urban-edge farmlands threatened by conversion to non-agricultural uses.
   - **b.** Increase the Authority's funding and staffing capacity to manage conservation easements by developing program guidelines and mitigation policies.
   - **c.** Explore the use of new conservation tools to help make farming economically viable, such as affirmative easements, right to purchase at farm value, and payment for ecosystem services programs.
   - **d.** As new funding becomes available, develop a matching grant program to fund local Resource Conservation Districts, UC Cooperative Extension, land trusts, or other nonprofit conservation partners that assist farmers and ranchers with agricultural and natural resource protection projects.
   - **e.** Work to streamline regulations and provide technical support to the agricultural community.
   - **f.** Work with conservation partners to conduct outreach to agricultural landowners to raise awareness about the Authority's conservation programs.

2. **Manage Open Space Authority lands for natural resource protection and viable agricultural operations, and to model effective public-private partnerships.**
   - **a.** Engage experts to develop comprehensive management plans for Authority properties and easements that integrate agricultural and natural resources.
   - **b.** Work with the Natural Resources Conservation Service, Resource Conservation Districts, and other partners to share best practices for land management and secure funding to implement farm and rangeland conservation projects on Authority preserves and nearby private lands that enhance water quality, habitat protection, carbon sequestration, and other ecosystem services.
   - **c.** Demonstrate and interpret successful conservation practices on Authority lands, such as hedgerows, sediment basins, irrigation efficiency projects, or other climate-smart projects.
   - **d.** Explore opportunities for beginning farmers to lease Authority agricultural lands, for example, through California FarmLink. Offer competitive leases and long-term land security in exchange for tenants' commitment to implementing on-farm conservation and stewardship projects.
   - **e.** For current and prospective Authority grazing lands, work with landowners to create criteria for rangeland conservation that will serve an array of resource benefits, including grazing business viability, land management, and control of invasive species.

3. **Support regional efforts to promote local sustainable food and economically sustainable working lands, and develop public education and outreach campaigns to promote awareness about the economic and environmental value of working lands.**
   - **a.** Support efforts of the Santa Clara County Food System Alliance, Health Trust, and other organizations that promote access to locally grown foods.
   - **b.** Support regional marketing initiatives that promote place-based agricultural branding and agritourism including "Buy Fresh Buy Local", Farm Trails programs, and U-pick operations.

Kathy Switky

Community gardens and urban farms help connect people to the region's agricultural heritage.

c. Promote awareness of the region's agricultural heritage.

d. Promote and fund community gardens, agricultural parks, and urban farms as an element of the Authority's Urban Open Space Program.

e. Organize and support hands-on events, on-farm gatherings, and farm tours to foster public appreciation of working lands and provide opportunities for public engagement.

f. Partner with organizations including the Natural Resources Conservation Service, local Resource Conservation Districts, the Farm Bureau, California Rangeland Trust, and Community Alliance with Family Farmers to (1) provide technical and marketing assistance to growers and (2) streamline permitting processes and facilitate permitting for farm and ranch conservation and stewardship projects.

4. **Engage in local, regional, and state land use planning and policy projects to promote farm and rangeland protection and the economic viability of regional agriculture.**

   a. Work with the Santa Clara County Local Agency Formation Commission (LAFCO), the County, and cities to maintain and strengthen agricultural zoning, maintain effective urban growth boundaries, and develop and implement effective agricultural mitigation policies and projects.

   b. Work with state legislators to restore funding for the Williamson Act (including a focus on urban-edge farms, which are grossly underrepresented in Williamson Act contracts) and engage County leadership to secure funding and provide incentives, such as transportation project mitigation, and urban agriculture incentive zones to increase agricultural viability and protect open space.

   c. Advocate for agricultural tax credits such as California's Natural Heritage Tax Credit program.

   d. Participate in local and regional water supply planning efforts (such as the Pajaro and Bay Area Integrated Regional Water Management plans) and agencies (such as the Santa Clara Valley Water District and the San Francisco Public Utilities Commission) to ensure reliable long-term supplies of affordable irrigation water.

   e. Initiate multi-benefit agricultural conservation projects that contribute to groundwater recharge and water supplies, water quality, and flood risk reduction.

   f. Support legislation that protects farmland at the urban edge, where it can act as a greenbelt to contain development and reduce greenhouse gas emissions.

Rachel Santos

Planning and policy can support farm and rangeland protection and the economic viability of regional agriculture.

   g. Advocate for a portion of AB 32 cap-and-trade revenues to be directed to farmland conservation.

   h. Strengthen SB 375 to integrate agricultural protection into the local Sustainable Communities Strategy (*Plan Bay Area*) and to promote agricultural protection within Association of Bay Area Government (ABAG) Priority Conservation Areas.

   i. Support adoption of minimum statewide standards for mitigating the loss of farmland when a project results in the conversion of farmland to non-agricultural uses.

   j. Engage with transportation projects needing agricultural mitigation, such as the High Speed Rail and highway widening projects.

   k. Support implementation of a local agricultural enterprise zone to use tax benefits to incentivize farmland protection and value-added farm enterprises.

CHAPTER 6 Recreation and Education

Goal and Guiding Principles

GOAL: Protect and manage a network of open space lands that provide opportunities for nature-based recreation and education for all residents.

GUIDING PRINCIPLES:

- Close gaps in the network of regional parks, open spaces, and trails.
- Enhance the Authority's Urban Open Space Program to promote greater access to safe and well-managed open spaces.
- Enhance the Authority's education and outreach programs to increase understanding and appreciation of the cultural, economic, environmental, and community benefits of open space.

Lory Kline

Providing public access to parks and trails is an important part of the Authority's mission. Outdoor recreation improves physical and mental health and contributes to people's sense of well-being.

Santa Clara County residents and visitors alike enjoy an extensive and diverse network of rural and urban parks, open spaces, and regional and local trails. Together, these lands offer an array of recreational opportunities, provide places to learn about nature, and support healthy individuals and communities. Protected open space contributes immensely to our quality of life by preserving views of the area's iconic ridges and hillsides. Numerous studies show direct connections between the availability of and access to open space and improved health. The Health Element of the *Santa Clara County General Plan* (County of Santa Clara 1994) specifically recognizes the importance of open space in supporting physical activity and overall health. Access to parks and trails helps reduce obesity, diminish risk of chronic disease (for example, heart, diabetes, osteoporosis, and cancer), enhance immune systems, and increase life expectancy. Access to natural open space also has been shown to significantly improve people's mental health, reducing depression, relieving stress, and contributing to people's sense of well-being (Gies 2006).

In its first 20 years, the Open Space Authority contributed to the protection of over 16,000 acres of open space. Continued protection of open space is more important now than ever, as a rapidly growing population will increase the demand for safe, clean and accessible parks and open spaces. Our population is aging and diversifying, resulting in the need for new recreational programs and amenities. In an increasingly technology-based world, open space providers will need to develop new programs that attract youth to the out-of-the-doors and that inspire them to become the next generation of land stewards and environmental leaders. We will need to better serve urban residents who are not benefiting from nature because they live in communities that lack convenient access to parks and open space.

Moving forward, the Authority will continue working with conservation partners to expand and connect regional and urban open space and park networks, placing emphasis on those lands with significant environmental values and unique recreational opportunities. Through an enhanced Urban Open Space Program, the Authority will help protect vital natural areas within urban communities and will work to close gaps in trails. The Authority will develop new partnerships and educational programs to promote outdoor activity, healthy lifestyles, and to foster an appreciation of the Santa Clara Valley's environmental values.

Parks and Open Space for Recreation and Education

Public Access and Recreation

Kathy Korbholz

Connecting people to the land is one of the Authority's priorities.

Providing recreational access to open space is a top priority for the Authority. **Figure 11** highlights examples of areas that are most suitable to expand the existing system of parks and trails to enhance public access and recreation. Largely derived from the *Countywide Trails Master Plan* (Santa Clara County 1995) and the *Parkland Acquisition Plan* (Santa Clara County Parks 2012), this represents a shared vision of the Authority and the County of Santa Clara Parks and Recreation Department to establish and manage a seamless and integrated network of parks and trails that link the Valley's urban residents to the surrounding regional parks and open space preserves. This vision is not intended to identify specific acquisition or trail priorities; rather it depicts general areas for potential park, open space, and trail projects within the County's unincorporated areas that may be park-deficient, that are located at the urban edge or near "urban islands" at risk of development, or that have unique ecological or recreational values. The Authority will work closely with County Parks and other partners to assess park and open space acquisition opportunities as they arise, providing information on key resource values, pursuing opportunities to secure grant funding, and taking on responsibility for managing new open space areas as appropriate.

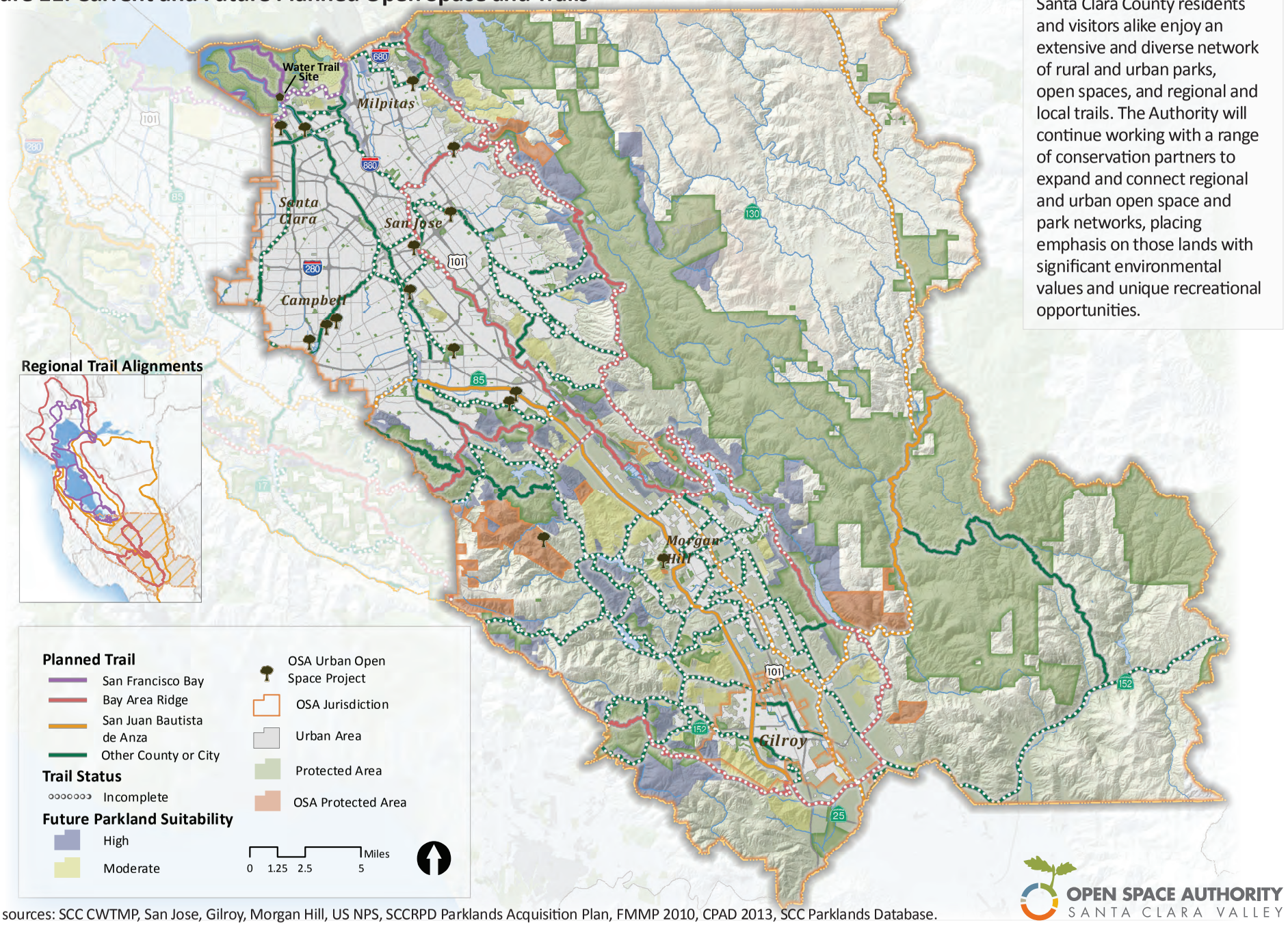
Trail Connections

Residents of the Santa Clara Valley benefit from an extensive system of regional and local trails, although significant gaps remain. Four regional trails – the San Francisco Bay Trail, Bay Area Ridge Trail, the Juan Bautista de Anza National Historic Trail, and the San Francisco Bay Water Trail – extend throughout and beyond the Open Space Authority's jurisdiction, and showcase special ecological and cultural assets of the region. Many local trails are included in county and city general plans; when complete, they will provide safe connections between local communities, schools, and nearby parks and open spaces. They will also provide much-needed transportation alternatives that reduce reliance on cars.

Figure 11 highlights significant trail corridors that are included in adopted regional and local trails plans, including the *Countywide Trails Master Plan*. These trails are intended to:

- Connect urban areas to parks, open spaces, and schools
- Provide park-deficient communities with new trails and links to transit centers
- Facilitate wildlife movement and provide riparian habitat along streams
- Provide viable alternatives to motor vehicle transportation, reducing greenhouse gas emissions and air pollution
- Provide unique recreational and educational opportunities

Figure 11: Current and Future Planned Open Space and Trails



Santa Clara County residents and visitors alike enjoy an extensive and diverse network of rural and urban parks, open spaces, and regional and local trails. The Authority will continue working with a range of conservation partners to expand and connect regional and urban open space and park networks, placing emphasis on those lands with significant environmental values and unique recreational opportunities.

Data sources: SCC CWTMP, San Jose, Gilroy, Morgan Hill, US NPS, SCCRPD Parklands Acquisition Plan, FMMP 2010, CPAD 2013, SCC Parklands Database.

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SANTA CLARA VALLEY

Transit & Trails

One of the core programs of the Bay Area Open Space Council is Transit & Trails, which connects people to Bay Area parks and open spaces by making it easy to find open space and get there via public transit, bike, walking, or car. The program's website (www.transitandtrails.org) and mobile apps allow users to find the information and share it with others. A proud member of the Bay Area Open Space Council, the Santa Clara Valley Open Space Authority supports this and other programs to increase accessibility of open space.

The Authority will continue working closely with partners to close gaps in key trail systems, and to establish new public access opportunities in response to successful land protection efforts. Implementation will require close coordination with other park and open space providers, not only to secure the land necessary for trails, but also to construct and manage them in a manner that results in a seamless experience for visitors even when they cross park boundaries. Promoting access to open space and trails will require new programs, including the Bay Area Open Space Council's Transit & Trails Program (see sidebar), as well as partnerships with the Valley Transportation Authority and other agencies that seek to link transit access to parks and open space.

Several areas stand out as priorities for park and open space protection that can provide new opportunities for public access and recreation. These areas are generally in close proximity to cities and urban areas and are at considered at moderate or high risk of development within the next 30 years. While these areas have many other outstanding values, including wildlife habitat, water resources, and scenic views, their protection is essential to meet the County's recreational needs and objectives:

- **Upper Penitencia Creek / East Foothills.** Expanding outward from the Authority's Sierra Vista Open Space Preserve, additional land protection here will protect critical views of the foothills and help close gaps in parkland and trails between Ed Levin and Grant Ranch County Parks. This area includes the park-deficient Alum Rock neighborhood, as well as several major gaps in the Bay Area Ridge Trail.
- **Coyote Ridge**. Highly scenic and accessible from south San Jose, this area is a priority to link Joseph D. Grant Ranch County Park to Anderson and Coyote Lake County Parks. Publicly accessible open space on Coyote Ridge would provide unparalleled opportunities for visitors to experience a sense of remoteness just minutes from the city.

Cait Hutnik

Public access to the stunning Coyote Ridge would provide important open space connections and unparalleled recreational opportunities.

- **Las Uvas / El Toro.** Just west of Morgan Hill is the iconic El Toro Peak. The Authority is working to provide public access to this prominent landmark. The lands to the west are also a priority for park and open space protection to link protected lands around Uvas and Chesbro Reservoirs. Several planned trails lead east from Morgan Hill and connect parkland in the Santa Cruz Mountains to the Diablo Range.
- **Santa Teresa Foothills.** This area comprises an approximately 1500-acre peninsula of open space extending from Santa Teresa County Park into the surrounding neighborhoods. The prominent ridgeline, which forms a highly visible scenic backdrop to south San Jose, includes serpentine grassland habitat that supports Bay Checkerspot Butterfly and rare plants such as Santa Clara Valley Dudleya and Mt. Hamilton thistle. The Santa Teresa Foothills are a priority for establishing a network of parks, open spaces, and trails that link Calero, Santa Teresa, and Almaden Quicksilver County Parks with the Authority's Rancho Cañada del Oro and Coyote Valley Open Space Preserves.
- **Mt. Madonna/Upper Uvas Creek.** This area is a priority to expand Mt. Madonna and Chitactac-Adams County Parks, and for closing gaps in the Bay Area Ridge Trail.

Derek Neumann

The Santa Teresa Foothills offer great opportunity for public access adjacent to surrounding neighborhoods, and the Open Space Authority – in partnership with the City of San Jose, Santa Clara County Parks Department, Santa Clara Valley Water District, and groups like the Santa Teresa Foothills Neighborhood Association – will continue to pursue opportunities for open space protection, trail connections, and public access.

Urban Open Space Program: Connecting Communities to Nature

The Open Space Authority has long recognized the value that preserves, parks, natural areas, trails, and community gardens bring to our cities and urban areas by protecting water supplies and other natural resources, restoring wildlife habitat, and supporting community health and safety. Since 1996, the Authority has allocated more than $10 million to 15 urban projects in the cities of San Jose, Santa Clara, Morgan Hill, Milpitas, Campbell, and unincorporated Santa Clara County.

Today, it is abundantly clear that having access to open space is essential not only for maintaining a high quality of life, but also for basic human health and well-being. The Open Space Authority is committed to continuing and enhancing its Urban Open Space Program in order to respond to the emerging needs of communities and the residents within them. Recent studies conducted by The Trust for Public Land demonstrate tremendous potential for parks and open space to help keep our communities healthy, economically viable, and

protected from natural disasters. For example, easy access to outdoor recreation such as parks and trails has a dramatic positive impact on reducing obesity, depression, and high blood pressure for both children and adults. Living less than a mile from a park can increase the likelihood of a child having a normal body weight fivefold (McConnell and Walls 2005).

The presence of open space and parks can increase the value of homes up to 16% and open lots by 35%. In addition, the quality of life afforded by ample open space, parks, and trails attracts businesses and highly qualified workers, contributing to a vibrant local economy (McConnell and Walls 2005).

The Authority will partner with others to identify opportunities and funding for urban open space, trails, and agriculture.

As climate change results in increased instances of natural disasters such as storms, fires, and floods, open space lands can serve as buffers that protect built infrastructure, homes and buildings. Natural lands also offer groundwater recharge and protection against flooding, which is especially relevant in the Bay Area – one of the most flood-prone areas in California.

Perhaps less tangible, but equally compelling, are social benefits offered by parks and open spaces. Outdoor public gathering places in our cities help foster interactions among various groups and serve to help communities in defining a shared sense of permanence and place, and creating pathways of connection to nature and our neighbors.

Representative Urban Open Space Projects

Martial Cottle Park – Santa Clara County Department of Parks and Recreation and California State Parks

Ron Horii

Martial Cottle encompasses 287 acres in South San Jose and celebrates the agricultural heritage of Santa Clara Valley through interpretive programs and exhibits. Additional amenities include trails, picnic areas, plus agriculture and community gardens. The Authority contributed $450,000 to help fund the award-winning master plan and recreational improvements for this urban farm project.

Three Creeks Trail – City of San Jose

The Three Creeks Trail is a vital multi-use trail corridor in the City of San Jose's urban trail system with east-west connections to regional trails. The trail offers enhanced options for non-motorized transportation and recreation within the urban core.

Liv Ames

The Open Space Authority contributed $3.24 million towards the land purchase of the former Union Pacific right-of-way.

Ulistac Natural Area – City of Santa Clara

Liv Ames

This 40-acre reserve, originally a seasonal encampment for the Ohlone Indians and formerly a golf course, was restored as a refuge for native plants, birds, butterflies, and now is characterized by restored oak and grassland habitats. The Authority contributed $458,000 towards development and restoration of the site near Guadalupe River. Today, Ulistac is the only large nature reserve in the City of Santa Clara and is a favorite recreational amenity for residents of nearby subdivisions and apartments.

Urban Open Space and Livable Communities for the 21st Century

In preparing the *Valley Greenprint*, the Authority reached out to many stakeholder groups to learn about their priorities for the Authority's Urban Open Space Program. What emerged was a strong passion for protecting and maintaining nature in our cities, along with an urgent need to make open space accessible to the entire community. Common areas of interest included projects that: (1) engage a span of age groups, from young children to seniors; (2) increase access for underserved communities; (3) provide opportunities for environmental education; (4) enhance partnerships and leverage funding; and (5) are located near public transportation.

Ron Horii

In urban areas, the Authority will partner with the cities, the County, and nonprofit organizations to complete open space projects that support vibrant, livable communities.

The Authority's goal in strengthening its Urban Open Space Program is to contribute substantively to vibrant and livable communities in the Santa Clara Valley. A successful Urban Open Space Program will help redefine nature and open space in our communities as integral to our everyday lives – and ensure that the whole community has access to open space and its numerous health, social, and economic benefits. We expect this program will be integral in designing and building more sustainable communities for the future that are compact, climate-smart, and livable.

Moving forward, the Authority will engage the County, cities, and nonprofit organizations to identify opportunities to increase and leverage limited funding to enhance investments in urban open space, parks, trails, and urban-edge agriculture.

The Authority will work with these partners and the community to develop new guiding principles for its Urban Open Space Program and to identify and promote projects that include one or more of the following elements:

- Expand outreach and education and **engage the urban community** in creating neighborhood-based open space projects
- Achieve **multiple conservation goals**, for example, a streamside restoration project that integrates wildlife habitat protection and connectivity with water quality, groundwater recharge, and flood control benefits
- Result in **trails and greenways connecting communities** with nearby schools, parks, and open spaces, especially in or near underserved or transit-oriented communities
- Include **climate-smart and wildlife-friendly** elements such as urban forestry, tree planting, and other natural resource stewardship projects
- Expand **access to fresh foods** and open space through urban-edge agriculture, urban farms, and community gardens
- Engage both traditional and nontraditional partners to **collaborate** and generate new ideas and solutions for urban open spaces
- Provide **park and open space amenities** that are responsive to the needs of an increasingly diverse and aging population
- **Align with *Plan Bay Area*** and other regional plans that offer sustainable blueprints for the cities of the 21st century

Scenic Views

The Santa Clara Valley and surrounding mountain ranges provide residents and visitors with outstanding views of agriculture and nature. The Valley's farms and orchards, rolling grasslands and oak savannas, and dramatic ridges that rise abruptly from the Valley floor, give unique definition to the region and help establish its sense of place. The combination of compact urban areas surrounded by scenic rural areas supports a vibrant economy by attracting new residents, businesses, and tourists to this beautiful setting. Over the course of the *Valley Greenprint* planning process, residents cited the Valley's beautiful scenery as one of the most important contributions to their quality of life, and expressed strong support for open space protection to maintain iconic views and vistas.

Derek Neumann

The Valley's outstanding views attract residents, businesses, and tourists.

Figure 12 shows important scenic viewsheds – natural and agricultural landscapes that are highly visible from cities, major highways, and designated scenic roads. Examples of landscapes with especially prominent views include the East Berryessa Foothills, Coyote Ridge, Coyote Valley, and the rural areas surrounding Morgan Hill, including the dramatic El Toro Peak on the city's western edge. While some communities have established urban growth boundaries and policies that limit development above a certain elevation on hillsides, many incredibly scenic areas within the Authority's jurisdiction remain at risk of development.

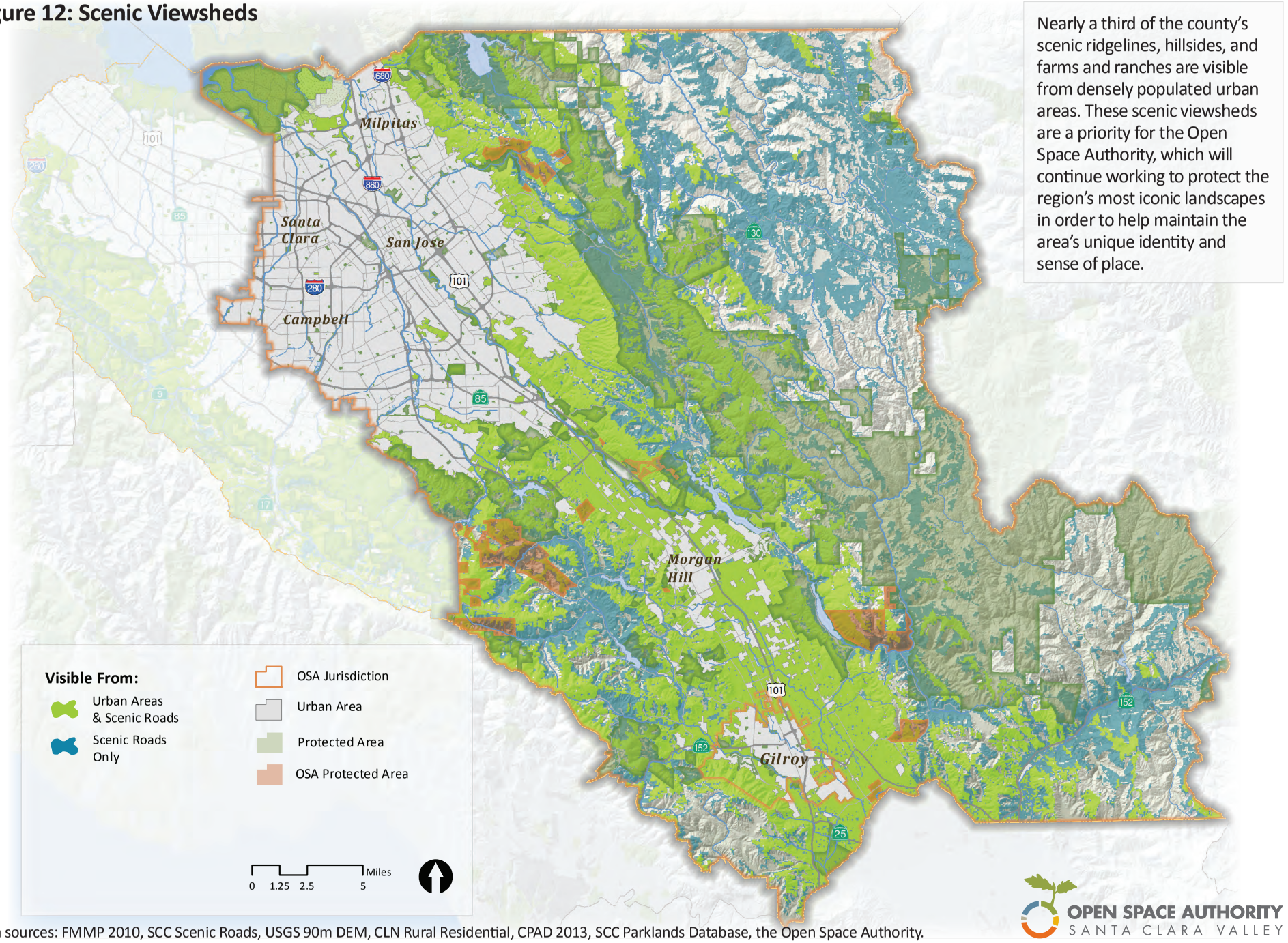
The Open Space Authority will continue to protect the prominent hills and ridges that ring the Santa Clara Valley and serve as a scenic backdrop for local communities, the undeveloped farms and ranches that separate cities and help maintain their unique sense of place, and other areas with unique or especially prominent natural features. In partnership with communities, the Authority will support efforts by the County and cities to promote effective land use planning and strong hillside protection measures. Protecting scenic greenbelts between cities provides opportunities for local agriculture and recreation, and is an effective means to achieve compact and efficient growth. In this way, the Authority can help the region meet the environmental objectives outlined in *Plan Bay Area* (see sidebar).

Plan Bay Area

Plan Bay Area aims to curb greenhouse gas emissions and reduce the impacts of climate change by concentrating new growth into existing urban areas close to transit, housing, and services. Adopted by the Association of Bay Area Governments (ABAG) and the Metropolitan Transportation Commission (MTC) in 2013, the plan outlines an integrated transportation and land-use strategy for the nine-county San Francisco Bay Area. Implementation by cities is voluntary and offers substantial financial incentives.

Plan Bay Area also emphasizes protection of the region's most significant open space, agricultural, scenic, and natural resource areas. It identifies more than 100 Priority Conservation Areas (PCAs) across the Bay Area, including several important landscapes within the Authority's jurisdiction. The Authority will work to protect key habitats, viewsheds, and agricultural lands within PCAs – especially those that are located near cities where open space and greenbelt protection will result in compact, efficient, and climate-smart communities.

Figure 12: Scenic Viewsheds



Nearly a third of the county's scenic ridgelines, hillsides, and farms and ranches are visible from densely populated urban areas. These scenic viewsheds are a priority for the Open Space Authority, which will continue working to protect the region's most iconic landscapes in order to help maintain the area's unique identity and sense of place.

Data sources: FMMP 2010, SCC Scenic Roads, USGS 90m DEM, CLN Rural Residential, CPAD 2013, SCC Parklands Database, the Open Space Authority.

OPEN SPACE AUTHORITY
SANTA CLARA VALLEY

Environmental Education and Outreach Programs

Parks and open space preserves provide unique learning environments where outdoor education and interpretive activities can help foster hands-on learning and help build support for conservation. Enhancing enjoyment and appreciation of open space through environmental education, interpretation, and outreach is a core part of the Authority's mission. Authority staff and volunteers reach thousands of area residents at events, fairs, and through science-based schools programs throughout the region, sharing information about open space, native plants and animals, and the opportunities available for the public to connect to and enjoy open space.

Teri Rogoway

Staff and volunteers from the Open Space Authority connect with thousands of residents each year at events, fairs, and science-based school programs.

With trained staff and volunteers, the Authority is uniquely positioned to expand its role in environmental education on its own lands as well as on others'. The Authority will continue to offer docent-led interpretive hikes for people of all ages, using its landholdings as classrooms where the public can enjoy a scenic hike while learning about local ecology and experiencing natural resources first-hand.

Authority staff will continue to develop educational programming and train volunteers to enrich nature-based recreational experiences, and will work with schools to involve students with the natural environment both in classrooms and on Authority preserves. The Authority will also explore partnerships with the health and agricultural communities to promote healthy lifestyles and access to healthy food. As a member of *Healthy Parks Healthy People Bay Area*, a collective of parks and health organizations aimed at improving the health of Bay Area residents by promoting regular use and enjoyment of parks, the Authority will continue to organize easy, docent-led hikes that provide a way for people to get started with outdoor exercise.

Patty Eaton

By collaborating on acquisition and management of connected and accessible open space lands and trails, the Open Space Authority can expand access to nature and promote healthy lifestyles.

Strategies for Promoting Recreation, Education, and Public Health

1. **Promote healthy lifestyles through education, outreach, and improved access to parks, open spaces, trails, and local farms.**
   - **a.** Work with the County Planning Department and other partners to improve community health consistent with the Santa Clara County Health Element, including support for:
     - – Physical activity
     - – Parks and open spaces accessible via walking and transit
     - – Access to fresh and locally grown foods
   - **b.** Seek partnerships with the County Public Health Department, the Health Trust, and other local health providers to promote access to open space and natural areas for physical and mental health.
   - **c.** Provide urban open space amenities to promote community health and quality of life.
   - **d.** Promote the creation of community gardens and urban agriculture as a means to increase knowledge of and access to fresh and healthy food, build community, and provide opportunities for physical activity.
   - **e.** Maintain Authority preserves and recreational facilities to a high standard to provide visitors with a safe and enjoyable experience and to encourage increased use.
   - **f.** Work with regional and state funding sources linked to SB 375 to reduce greenhouse gas emissions and achieve regional air quality goals.

Kathy Switky

Community gardens can increase access to fresh, healthy food.

2. **Work with partners to identify, prioritize, and fund the acquisition and management of connected and accessible open space lands and trails.**
   - **a.** Develop and implement funding strategies for land acquisition and management in coordination with conservation partners.
   - **b.** Promote use of transit to access parks, open space, and trails, such as through the Bay Area Open Space Council's Transit & Trails program.
   - **c.** Develop and expand the Authority's Urban Open Space Program to implement projects that connect urban residents to local trails and open spaces.
   - **d.** Prioritize local trail projects that link to transit-oriented development or close gaps in established trail networks.
   - **e.** Partner with the County and cities in their efforts to build out their network of planned parks and trail systems.

3. **Provide and support a diverse range of resource-based educational programs.**
   - **a.** Work with schools and youth organizations to develop recreational and interpretive programs that expand young peoples' understanding of nature, conservation, and the effects of a changing climate.
   - **b.** Identify opportunities for unique recreational amenities or experiences (such as backcountry camping) on Authority preserves. Work with local historians and archaeologists to identify cultural resources that can be included in educational and interpretive programs.
   - **c.** Secure funding to develop a nature facility in partnership with other organizations.
   - **d.** Develop educational materials to be available online and at preserve entrances describing the variety of conservation values and ecosystem services provided by the Authority's wildlands and natural areas, including native species and habitats, climate change, connectivity, clean drinking water, crop pollination, flood control, and carbon sequestration.

e. Provide ongoing training to Authority volunteers and docents about critical environmental issues relevant to interpretive programs.

f. Explore opportunities to expand the Authority's iNaturalist program using smartphone technology to foster citizen science on Authority preserves; promote research projects at all educational levels on Authority properties.

g. Explore partnerships and funding opportunities with schools and local universities to increase environmental education programs and facilitate science-based education and research projects on Authority properties, including partnerships with the Youth Science Institute, Camp Galileo, and other programs.

4. **Expand outreach and education programs about the value of open space and natural resources.**

   a. Collaborate with the private sector to build an understanding of the critical role open space plays in ensuring that Santa Clara County remains a welcoming place to live and do business.

   b. Develop strategies for expanding the role of volunteers in educational and land stewardship programs.

   c. Reach out to diverse populations to enhance awareness of open space resources and promote their use and enjoyment.

   d. Continue participation in community events to promote awareness of local native species and habitats.

   e. Provide workshops and visits to Open Space Authority properties for public officials, policymakers, and other leaders to support informed decisions regarding funding and policies that affect open space protection and natural resource stewardship in Santa Clara County.

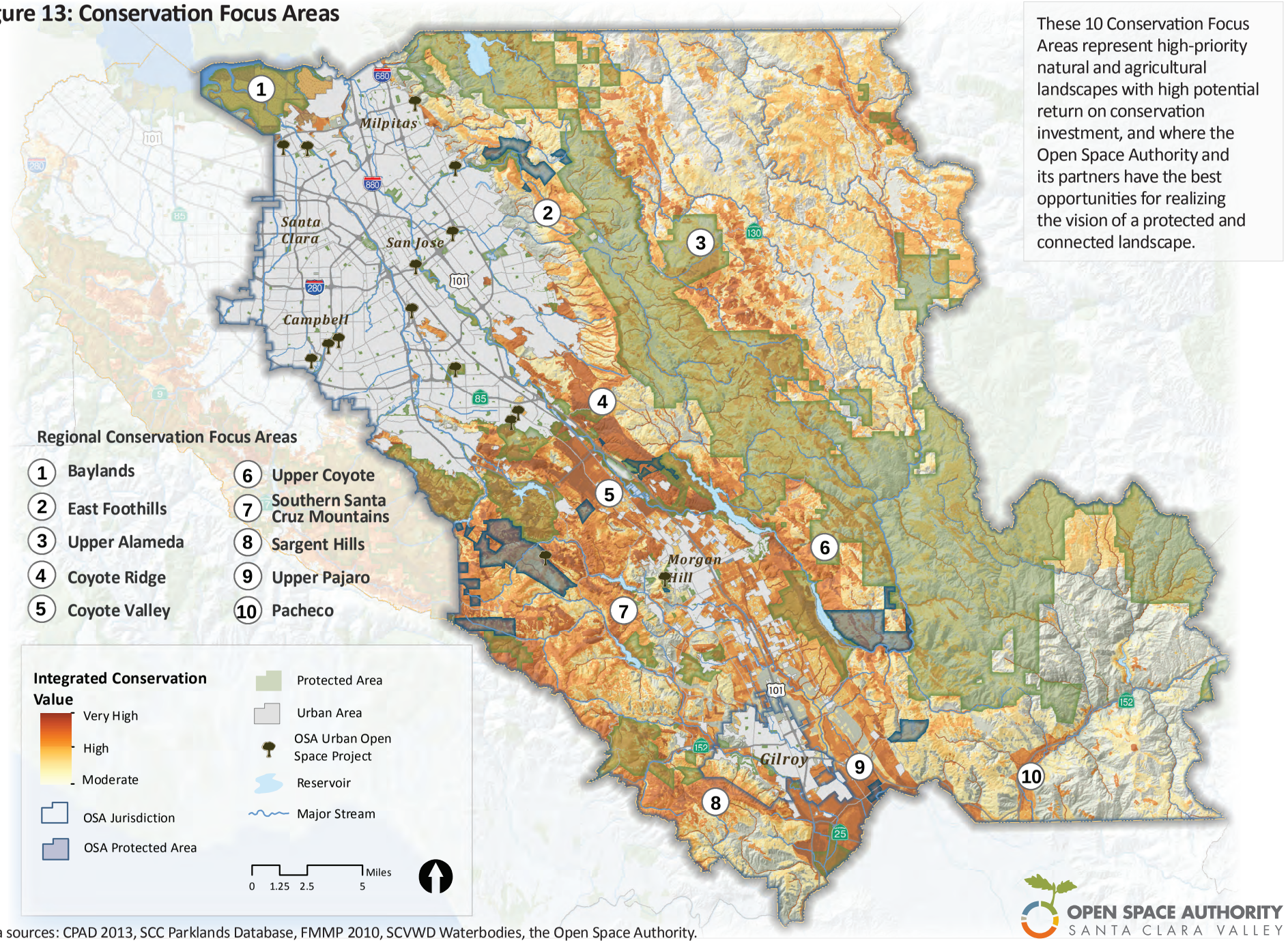
   f. Support regional and state efforts to reduce greenhouse gas emissions to meet regional air quality goals.

   g. Develop partnerships to support healthy, active living for all populations within the Authority's jurisdiction.

Stephen Joseph

Sierra Vista Open Space Preserve includes trails open to hikers, bikers and equestrians, including a section of the Bay Area Ridge Trail.

Figure 13: Conservation Focus Areas



Data sources: CPAD 2013, SCC Parklands Database, FMMP 2010, SCVWD Waterbodies, the Open Space Authority.

CHAPTER 7 Conservation Focus Areas

To identify where these goals can best be met with resource protection, the *Valley Greenprint* team integrated the latest science and natural resources data into a comprehensive Geographic Information System (GIS). This included information from adopted plans, expert input from more than 100 conservation partners who participated in project workshops and meetings, and input from community meetings and an online project forum. The resulting data layers (detailed in the Appendix) were used to create a series of maps representing areas with the highest conservation values associated with each goal.

The Conservation Focus Areas represent natural landscapes where the return on conservation investment is the highest.

By overlaying these layers, Authority staff created an integrated Greenprint map highlighting the areas within the Authority's jurisdiction where conservation benefits are concentrated, and where direct purchase, conservation easements, land stewardship, restoration, or policy protection would help protect many resources. Each Conservation Focus Area offers opportunities to protect each of the identified resource categories: wildlands, water, working lands, and recreation and education. Importantly, the *Valley Greenprint* analysis also considered the urgency of protecting each area, given the risks facing them, and the suitability of each area for preservation – as well as areas that are important to the Valley's natural or cultural heritage.

The resulting 10 Conservation Focus Areas (**Figure 13**) represent high-priority natural landscapes where the return on conservation investment is the highest, and where the Open Space Authority and its partners have the best opportunities for realizing the vision of a protected and connected landscape:

1. **Baylands**
2. **Upper Penitencia Creek / East Foothills**
3. **Upper Alameda Creek**
4. **Coyote Ridge**
5. **Coyote Valley**
6. **Upper Coyote Creek**
7. **Southern Santa Cruz Mountains**
8. **Sargent Hills**
9. **Upper Pajaro River**
10. **Pacheco Creek**

The *Valley Greenprint* map and Conservation Focus Areas provide the Authority and its partners with an important high-level guide – not a specific prescription. Most data were collected at a county level, and are therefore too broad to address specific, local conservation priorities and needs. Still, by directing conservation actions to the Conservation Focus Areas, the Open Space Authority and others have the best opportunity to meet the goals of the *Santa Clara Valley Greenprint*.

1. Baylands

San Francisco Bay is one of the world's most diverse and productive tidal marsh ecosystems, providing habitat for more than 500 species of plants of animals, including dozens that are considered to be rare, threatened, or endangered. The Baylands are a critical stop along the Pacific Flyway for migrating and nesting birds, and contain the most important coastal salt pond complexes for waterbirds in the United States, supporting more than a million waterbirds through the year (San Francisco Bay Area Wetlands Ecosystem Goals Project 1999). The Baylands also provide a host of critical ecosystem services, including flood control and protection against storm surges. Because of historic land subsidence in Silicon Valley, some of California's most valuable commercial real estate is at risk of tidal flooding; impacts to both the business sector as well as loss of vital wetland habitat are expected due to a projected increase in sea level of sixteen inches by mid-century (Tam 2012). Conservation, restoration, and active stewardship will be necessary to protect this vital ecosystem and to maintain its natural flood control services.

The overall restoration vision for the South San Francisco Bay is to restore large areas of tidal marsh connected by wide corridors of natural habitats along the Bay's perimeter, with transitions from mudflat through tidal marsh to adjacent upland grasslands. The South Bay Salt Pond Restoration Project encompasses a portion of the Baylands Focus Area. This project is the largest tidal wetland restoration project on the West Coast. When complete, the project will restore 15,100 acres of industrial salt ponds to a rich mosaic of tidal wetlands and other habitats. The Restoration Project will also result in a series of improved levees and restored outer marshes that will protect communities from tidal surges and increase the flood carrying capacity of local creeks, flood control channels, and rivers.

The Baylands represent an opportunity for the Authority to partner with cities and public agencies that are working on the South Bay Salt Pond Restoration Project and related efforts. The Authority's jurisdiction includes several unique opportunities to implement this vision: it includes one of the few South Bay areas where it is possible to restore tidal brackish marsh and reestablish landscape linkages to nearby uplands, including restoration of a very rare complex of vernal pools (San Francisco Bay Area Wetlands Ecosystem Goals Project 1999). Land conservation will be a vitally important adaptation strategy in response to a changing climate. With a larger network of interconnected natural areas, plant communities and wildlife habitats can shift to higher elevations as sea levels rise. Areas north of Highway 237 and west of Highway 880 have been identified as critical priorities for land conservation and restoration in many recent climate planning and adaptation studies (PRBO website 2013). Conservation and restoration work in this portion of the Baylands Focus Area is important to establish new wetlands to absorb waves, attenuate flooding, and protect developed areas while improving the environment.

Derek Neumann

The Baylands includes the largest tidal wetland restoration project on the west coast.

Partners include US Fish and Wildlife Service, California Department of Fish and Wildlife, California State Coastal Conservancy, San Francisco Bay Restoration Authority, County Parks, the cities of San Jose and Milpitas, Santa Clara Valley Water District, Point Blue Conservation Science, San Francisco Bay Bird Observatory, San Francisco Wildlife Society, Bay Area Ecosystems Climate Change Consortium, California Landscape Conservation Cooperative, and other South Bay Salt Pond Restoration partners.

2. Upper Penitencia Creek / East Foothills

Located near San Jose's eastern foothills, this area rises from the valley floor to the crest of the Diablo Range. Much of this area falls within the Penitencia Creek watershed, which is characterized by rolling grasslands and oak woodlands interspersed with heavily forested canyons. The region includes a rapid transition from urban lands to some of the most rugged

Derek Neumann

The Upper Penitencia Creek / East Foothills Conservation Area provides an opportunity to expand and connect a number of trails and open spaces, as well as to protect natural areas can reduce impacts of downstream flooding.

hills of the Diablo Range. The scenic west-facing slopes are highly visible from nearby urban and residential areas in Milpitas and San Jose. This watershed is a great example of an urban/natural land interface where the densely developed City of San Jose is adjacent to Alum Rock Park and the Authority's Sierra Vista Open Space Preserve.

Conservation in this area is necessary to preserve the dramatic ridgeline that serves as the region's scenic backdrop, protect watershed values, and increase recreational opportunities for residents of Milpitas and East San Jose's Berryessa, Alum Rock, and Evergreen neighborhoods. This area provides an opportunity to close significant gaps in the Bay Area Ridge Trail between Ed Levin and Joseph D. Grant County Parks, and to establish better trail connections and access to Alum Rock Park and Sierra Vista Open Space Preserve (for example, by completing Penitencia Creek Trail). Expanding parks and open spaces within the upper Penitencia Creek watershed will protect critical natural areas that capture and ameliorate runoff from storms to reduce risk of downstream flooding, and will leverage downstream stormwater management projects being led by the Santa Clara Valley Water District. This area also provides a unique opportunity to partner with the University of California to integrate results of the many ongoing science and research projects at University of California's Blue Oak Preserve into management of this diverse landscape. Key partners include San Jose Parks, Recreation & Neighborhood Services, Santa Clara County Parks and Recreation, the California State Coastal Conservancy, the Bay Area Ridge Trail Council, The Nature Conservancy, Santa Clara Valley Water District, and the University of California.

3. Upper Alameda Creek

Alameda Creek is the largest watershed in the South Bay, covering more than 700 square miles. Two-thirds of the watershed is located in Alameda County, and the rest encompasses Mount Hamilton and the rugged crest of the Diablo Range in northeastern Santa Clara County. This landscape is characterized by rolling grasslands, oak woodlands, steep, chaparral covered hillsides, and dramatic ridges. This area represents one of the last near-wildernesses between Silicon Valley and the Central Valley. A number of public agencies and nonprofit conservation partners have come together as the Upper Alameda Creek Watershed Partnership to achieve the common goal of protecting and restoring this landscape. The Partnership recognizes the area's remarkable watershed values and conservation significance:

> *It is a largely intact, ecologically functioning landscape of nearly one million acres within easy reach of eight million people in the greater Bay Area region. It has a thriving ranching community, provides nearly one sixth of the water supply for 2.4 million residential, commercial, and industrial customers in the Bay Area and supports a wide array of native plants, animals and natural communities, many of which are rare, imperiled or endemic* (Alameda Resource Conservation District *et al.* 2013).

The Authority is working as a member of the Partnership to help coordinate planning for watershed protection and stewardship activities within the upper Alameda Creek Watershed. The aim of this work is to (1) protect rangeland and other working landscapes through focused land acquisition and conservation easement projects with willing sellers, (2) to promote the many conservation tools and incentives that are available to landowners to protect agriculture and watershed resources – such as the Williamson Act and NRCS stewardship payment programs – and (3) to enhance public awareness of the Alameda Watershed's regional significance.

By protecting the integrity of the watershed through land conservation and careful land management, the Partnership is helping maintain the green infrastructure that naturally supplies much of the region's high-quality drinking water. This watershed-based approach to conservation greatly reduces the need for downstream flood protection and water treatment facilities, supports the agricultural economy, and will protect a beautiful expanse of natural habitat. Key partners in this area include the San Francisco Public Utilities Commission, Trust for Public Land, The Nature Conservancy, Alameda County Resource Conservation District, Defenders of Wildlife, Natural Resources Conservation Service, and the California Rangeland Trust.

The Authority and other members of the Upper Alameda Creek Watershed Partnership are working to protect and restore the landscape of the South Bay's biggest watershed, including promoting conservation incentives for landowners.

4. Coyote Ridge

Coyote Ridge extends along the east side of the Santa Clara Valley between San Jose and Morgan Hill. Highly visible from southern San Jose and the Highway 101 corridor throughout Coyote Valley, the dramatic ridge extends 1,400 feet above the valley floor. A number of creeks originate on Coyote Ridge, and ultimately feed into Coyote Creek, an important steelhead steam. Coyote Ridge encompasses extensive serpentine grasslands and oak woodlands, which

Derek Neumann

Conservation along Coyote Ridge provides an opportunity to close critical gaps between parks and protected areas, creating the possibility of an interconnected landscape covering 500,000 acres extending from the Coyote Creek Parkway to Mount Hamilton and Henry Coe State Park.

provide habitat to more than 12 rare, threatened, and endangered species. This area has been identified as a critical priority in the *Santa Clara Valley Habitat Plan* to protect and actively manage these remaining serpentine grasslands. Coyote Ridge also serves as the gateway to the Diablo Range, and is located within a critical landscape linkage that allows for wildlife movement between the Diablo Range and the Santa Cruz Mountains. Literally just minutes from San Jose, Coyote Ridge supports a large tule elk herd that embodies the wild and rugged spirit of the Diablo Range.

Conservation along Coyote Ridge provides an opportunity to close critical gaps between existing parks and protected areas, creating the possibility of a protected and interconnected landscape covering 500,000 acres that extends east from the Coyote Creek Parkway to Mount Hamilton in the north and Henry Coe State Park in the south. This would provide unparalleled opportunities for recreation access to this area, including extending the Bay Area Ridge Trail from Joseph Grant County Park in the north to Anderson Lake County Park in the south. Key partners include the Valley Habitat Agency, Santa Clara County Parks and Recreation, Santa Clara Valley Water District, The Nature Conservancy, State Coastal Conservancy, California Department of Fish and Wildlife, and the US Fish and Wildlife Service.

5. Coyote Valley

The conservation values of Coyote Valley are myriad and unparalleled – perhaps greater than they are anywhere else within the Open Space Authority's jurisdiction. The 7,400-acre Coyote Valley, stretching from San Jose south to Morgan Hill, includes some of the last remaining contiguous, prime farmland in a region heralded for its agricultural heritage. In 2012, Sustainable Agriculture Education (SAGE) and the California Coastal Conservancy published a feasibility study, *Coyote Valley: Sustaining Agriculture and Conservation*, investigating the future of sustained agricultural production and open space conservation in the Valley (SAGE 2012). The study highlighted the multiple values of Coyote Valley, including valuable farmland, critical habitat, a reliable source of healthy, local food, and opportunities for the sustained livelihood of the County's farmers and ranchers.

Stephen Joesph

Coyote Valley includes perhaps the most important conservation opportunities within the Open Space Authority's jurisdiction, with outstanding habitat and critical linkages, some of the area's last prime farmland, and an open space greenbelt between San Jose and Morgan Hill.

This incredibly scenic and threatened landscape serves as the only open space buffer separating the cities of San Jose and Morgan Hill, and has irreplaceable conservation values. Coyote Valley encompasses one of two critical landscape linkages that allow wildlife movement between the Diablo Range and the Santa Cruz Mountains. Coyote Valley is a critical recharge area for the groundwater basin upon which Silicon Valley depends. Laguna Seca, the largest freshwater wetland in the County, is located in the Coyote Valley. This historic lake provides outstanding wildlife habitat and provides opportunities for wetland restoration and stormwater management improvements to increase flood protection downstream in San Jose. The foothills on either side of Coyote Valley provide habitat for many rare, threatened, and endangered species, including California Red-legged Frog, California Tiger Salamander, and a host of rare plants found only in serpentine grasslands. This natural and agricultural landscape supports the greatest diversity of raptors in the County.

While the northern portion of Coyote Valley is zoned in the City of San Jose's *Envision San José 2040: General Plan* (City of San Jose 2011) for light campus industrial development, there may still be opportunities to work with willing landowners in this area to integrate conservation and green infrastructure projects into development proposals. In mid-Coyote Valley, there may be opportunities to work with agricultural landowners to increase the economic viability of their operations by promoting use of higher-value specialty crops and taking advantage of new and emerging markets for local produce. Through a carefully planned network of open spaces and working lands, Coyote Valley's vital role for floodplain protection, agriculture, habitat, and recreation can be preserved. Key partners include the City of San Jose, Santa Clara County Parks Department, Peninsula Open Space Trust, Santa Clara Valley Water District, Resource Conservation Districts, Silicon Valley Land Conservancy, Sustainable Agriculture and Education, Natural Resources Conservation Service, and UC Agricultural Extension.

6. Upper Coyote Creek

The Upper Coyote Creek Conservation Focus Area extends from the valley floor near the communities of Morgan Hill and San Martin east to the prominent ridge of the Diablo Range. This area is incredibly important for local agricultural viability, wildlife habitat, local water supplies, and recreation. While much of the area along the valley floor has been developed, many small farms and ranches are located south and east of Morgan Hill. These contribute to the County's agricultural economy and add to the city's charm and sense of place. The scenic hillsides above the valley are comprised of valley oak and blue oak woodlands, serpentine grasslands, and high-quality riparian forests along Coyote Creek and its tributaries. These natural areas provide habitat for a number of rare, threatened and endangered species including Bay Checkerspot Butterfly, California Red-legged Frog, Foothill Yellow-legged Frog, and California Tiger Salamander. This area is especially important as a primary source of local water supplies, as rainfall is captured and conveyed downstream to Anderson and Coyote Reservoirs, which are managed to recharge local groundwater supplies.

This area is very important for future public access and recreation. It has been identified as a priority area for future parkland in the County Parks Acquisition Plan. Land protection would help close gaps between Anderson and Coyote Reservoirs, San Felipe Ranch, Henry Coe State Park, and the Authority's Palassou Ridge property. This would facilitate completion of the Bay Area Ridge Trail, as well as a number of routes proposed in the Countywide Trails Master Plan such as the Morgan Hill Cross Valley Trail and the San Martin Cross Valley Trail, both west-to-east connections that connect urban communities to the Diablo Range and the Bay Area Ridge Trail.

Much of this area is considered at high risk of development. Given the extensive loss of farmland over the past twenty years, and how little undeveloped open space exists in the hills immediately surrounding Morgan Hill, the Authority and many partners are working to implement a conservation vision where future development is largely concentrated within existing city boundaries. The Authority may play an important role in helping to implement an effective agricultural mitigation program that gives shape to a compact and efficient community, and that preserves the city's agricultural heritage and economy. Partners include The Nature Conservancy, Santa Clara Valley Water District, Silicon Valley Land Conservancy, Santa Clara County Parks, Bay Area Ridge Trail Council, and State Parks.

Derek Neumann

The high-quality riparian forests along Coyote Creek and its tributaries provide habitat for a number of rare, threatened and endangered species, and are an important source of local water supplies.

7. Southern Santa Cruz Mountains

The Southern Santa Cruz Mountains Conservation Focus Area covers some of the County's most rugged terrain and diverse habitats. This area includes the eastern range of the Santa Cruz Mountains (a vast area extending from the Santa Teresa foothills in the north, south to Sargent Hills) from the highest points along the ridge east to the Santa Clara Valley floor. This area supports incredibly diverse vegetation including knobcone pine, redwood, mixed evergreen riparian forests, oak woodlands and oak savannas, chaparral scrub, and serpentine grasslands. The diverse vegetation and complex landscape features provide habitat for many rare, threatened, and endangered species, and make this area one of the most important in the County as a refuge for plants and animals in the face of a changing climate. This remote and rugged landscape is also considered to be core habitat for the reclusive mountain lion, an animal that requires extensive acreage of high-quality habitat.

William K. Matthias

The rugged terrain and diverse habitats of the Southern Santa Cruz Mountains are among the County's most important refugia for allowing adaptation to a changing climate.

The Southern Santa Cruz Mountains are truly significant for their watershed values. The highest amount of rainfall in the County occurs here, where it slowly percolates into the soil and is conveyed to streams and downstream reservoirs. Uvas, Calero, and Chesbro Reservoirs are used to replenish the groundwater that supplies much the area's drinking water. The natural areas of the Southern Santa Cruz Mountains allow this groundwater recharge to happen naturally, rather than forcing rainfall to run quickly off the landscape. This area encompasses the headwaters of many creeks – including Uvas and Llagas and their tributaries – that are critical to the recovery of steelhead trout within the County. Conservation and restoration groups like Coastal Habitat Education & Environmental Restoration are actively working to address fish passage problems in Little Arthur and other local creeks.

While there are outstanding opportunities for strategic land purchases to expand and connect the Authority's Rancho Cañada del Oro and Uvas Creek Preserves with Mount Madonna County Park and Sierra Azul Open Space Preserve (which will help facilitate completion of the Bay Area Ridge Trail), a key conservation strategy for this area will focus on watershed-level stewardship and coordinated resource management efforts between public and private partners. The area has been significantly affected by the impacts of rural homesite and vineyard development, and from a deteriorating network of eroding streamside roads, highlighting the need to engage landowners in streamside restoration projects. This area has also experienced severe fires in the past, and coordinated fuels management efforts will remain important to prevent catastrophic wildfire and associated erosion and sedimentation. Key partners for the Authority in this part of the County include Peninsula Open Space Trust, Santa Clara Valley Water District, Midpeninsula Regional Open Space District, Santa Clara Valley Habitat Agency, Santa Clara County Parks and Recreation, Bay Area Ridge Trail Council, CalFire, California Fire Safe Council, the Loma Prieta Resource Conservation District, and the Santa Teresa Foothills Neighborhood Association.

8. Sargent Hills

Located in the southwestern corner of the County south of Highway 152 and west of Highway 101, the Sargent Hills area encompasses a remarkably diverse landscape. Highly visible from Highway 101 and throughout southern Santa Clara County, the Sargent Hills serve as the scenic backdrop to the City of Gilroy and help define the region's rural character. Rising steeply from the Santa Clara Valley floor where some of the County's most productive commercial farmland is located, the Sargent Hills are comprised of rolling grasslands that climb to the redwood-forested crest of the southern Santa Cruz Mountains. A number of streams originate in the Sargent Hills and flow through steep canyons on the way to their confluence with the Pajaro River. Unimpeded by dams, these streams provide important habitat for California Red-legged Frog and many other species, and are important to the recovery of steelhead trout populations within the larger Pajaro River watershed.

The Sargent Hills are part of an extensive and largely intact landscape that extends west into Santa Cruz County. Nearly 20,000 acres in size, this area includes some of the region's largest cattle ranches and provides core habitat for mountain lion and other far-ranging species. The Sargent Hills are located within the critical landscape linkage connecting the Santa Cruz Mountains to the Diablo Range.

Because there are relatively few landowners in this extensive area, the Sargent Hills provide unique opportunities for conservation. They figure prominently in a number of organizations' conservation visions: they are included in the *Valley Habitat Plan* as a top priority for land protection; and portions of the Sargent Hills are included in the *County General Plan, Countywide Trails Master Plan,* and *the County Park Acquisition Plan.* The Land Trust of Santa Cruz County and their partners are actively working in this area to protect habitat, watershed integrity, and working timberlands, and a consortium of conservation organizations including the Peninsula Open Space Trust and The Nature Conservancy is working to protect this area as part of the critical linkage to the Diablo Range. The Sargent Hills represent an opportunity for the Authority to work with these and other partners to protect vital rangelands and critical habitat. Land protection in this area could provide new opportunities for public access and recreation like the Bay Area Ridge Trail – with views extending from the Monterey Bay to the Diablo Range – in a large landscape minutes from Gilroy and south County communities.

Derek Neumann

The Sargent Hills rise steeply from some of the County's most productive commercial farmland. The area includes a diverse and extensive landscape with large ranches and critical habitat.

9. Upper Pajaro River

The Santa Cruz, Diablo, and Gabilan Mountain Ranges all converge at the Upper Pajaro River, located in the southern Santa Clara Valley. This landscape has outstanding water, wildlife, and agricultural conservation values. With rich, deep soils, the areas immediately east and south of Gilroy include the County's largest and most productive commercial farmlands. Some of these undeveloped farms and ranches are part of an extensive floodplain. During winter rains, San Felipe Lake swells over four times in size and, along with nearby ponds and seasonal wetlands, provides critical flood protection to the downstream communities of Pajaro and Watsonville. Wetlands and riparian areas along the Upper Pajaro River are key destinations for birds migrating along the Pacific Flyway, while the river itself – which flows into Monterey Bay, a National Marine Sanctuary – provides important habitat for steelhead trout and many other aquatic species.

Because of its location at the junction of three mountain ranges, the Upper Pajaro River has been identified as a critical landscape linkage. Protection of this area is necessary to allow mountain lion, badger, and other wide-ranging animals to migrate and disperse between the extensive natural areas located in these ranges. Indeed, scientists with The Nature Conservancy estimate that protection of approximately 7,000 acres along the Upper Pajaro River will help maintain ecological connectivity to over 700,000 acres of core habitat. Land conservation along the Pajaro will be especially important to provide resilience to a changing environment. Keeping these lands intact and connected will allow plants and animals to relocate and adapt to changing environmental conditions, and will help human communities adapt by protecting an extensive floodplain and reducing impacts of downstream flooding. In addition, the Upper Pajaro provides important recreational opportunities, including a proposed segment of the Bay Area Ridge Trail that would link protected parks and open spaces in the Santa Cruz Mountains and Diablo Range.

William K. Matthias

Some of the farms and ranches in the Upper Pajaro River region are part of the area's extensive floodplain, and are important for regional agriculture, flood protection, and wildlife habitat.

Areas within the Upper Pajaro River floodplain are at risk as the City of Gilroy seeks to annex surrounding farmland for residential and commercial development. The Authority is working in close partnership with a number of agencies and organizations to protect open space in this area, primarily through agricultural conservation easements and focused riparian and wetland restoration projects. Partners in this work include The Nature Conservancy, Santa Clara Valley Water District, Pajaro River Flood Prevention Authority, Silicon Valley Land Conservancy, Natural Resources Conservation Service, and the Loma Prieta Resource Conservation District. Recently, the Amuh Mutsun Tribal Band of the Ohlone has been pursuing land conservation in the Pajaro River watershed, and this group represents a potential new partner in this area. There may be opportunities for the Authority to expand its boundaries in the future to help implement effective regional agricultural mitigation and resource protection programs adjoining Gilroy and in northern San Benito County. By protecting farms, ranches and open space along the Upper Pajaro, the Authority and partners can help sustain local food supplies and our regional agricultural economy, protect a critical floodplain, and maintain regionally significant wildlife habitat.

10. Pacheco Creek

Located in the southeastern portion of the County, Pacheco Creek runs through an incredibly scenic valley that is traversed by Highway 152. Fertile soils in the valley bottom support many small farms, while the grasslands and oak savannas in the surrounding hills support a number of large cattle ranches. This agricultural landscape is also significant for its natural resource values. One of the County's last remaining sycamore alluvial woodlands extends along the banks and floodplain of upper Pacheco Creek, upstream of Casa de Fruta. The riparian area and adjacent hillsides located just to the south and east of Henry Coe State Park have been identified as important conservation priorities in the *Santa Clara Valley Habitat Plan* to protect this increasingly rare habitat, and to promote recovery of the California Tiger Salamander. In addition, Pacheco Creek can potentially support an important run of steelhead trout. If stream flows are managed by carefully planned water releases from Pacheco Dam, this area can provide a unique opportunity to improve water supply and restore habitat conditions for steelhead, and to contribute to the species' recovery within the larger Pajaro River watershed. This area is part of the critical landscape linkage that connects the Diablo Range to the Santa Cruz Mountains. Pacheco Creek and the surrounding hills serve as the southern gateway to the extensive habitat in the Diablo Range for wildlife species that travel along the upper Pajaro River between these mountain ranges.

Given the distance of this remote area from the Authority's land management and operations facilities, the Authority will most likely play a supporting role in land conservation efforts in Pacheco Creek. While there may be opportunities to partner with other public agencies to close gaps between Henry Coe State Park and Rancho Cañada de los Osos Ecological Preserve, this landscape is ideal for use of conservation easements and stewardship incentives. These conservation tools allow farm and rangeland to remain in private ownership, while ensuring protection of their conservation values and providing funding for voluntary habitat restoration projects. Key conservation partners in this area include the Natural Resources Conservation Service, the Loma Prieta Resource Conservation District, Valley Habitat Agency, California State Parks, California Department of Fish and Wildlife, County Parks and Recreation, Pacheco Pass Water District, and The Nature Conservancy.

Derek Neumann

Pacheco Creek runs through a scenic valley that includes small farms and large ranches. Its significant natural resource values include California Tiger Salamander and steelhead habitat.

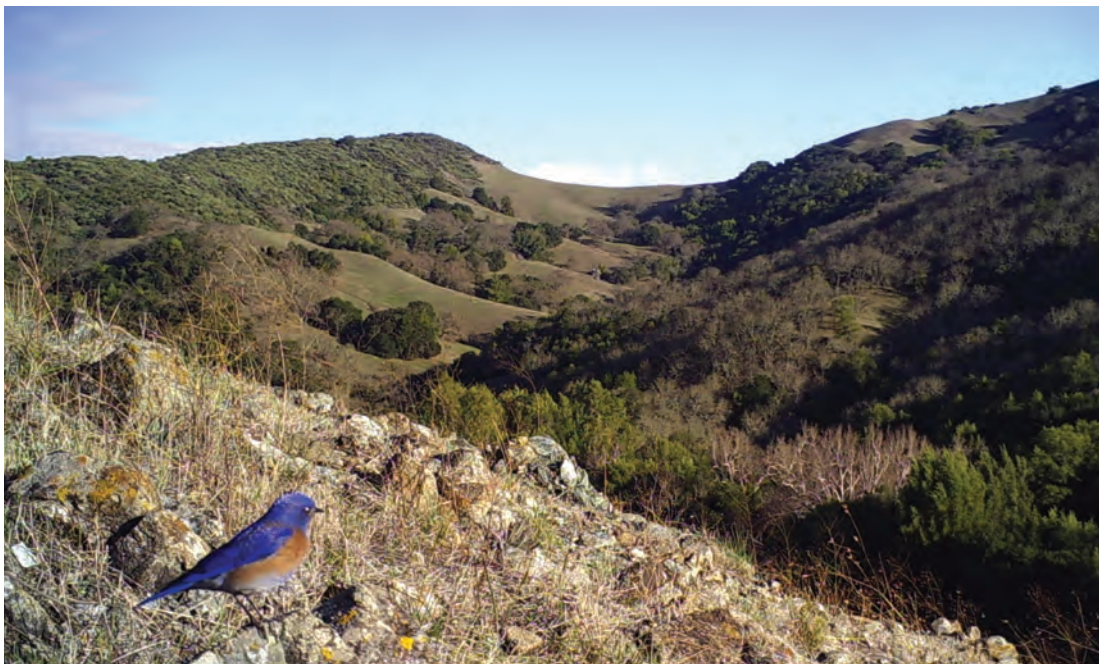
CHAPTER 8 Implementation and Next Steps

Strategic Planning

The *Valley Greenprint* lays out a broad approach to open space protection over the next generation, and the Authority will use it as a guide to focus specific conservation efforts on lands that are most suitable for protection – areas with multiple conservation values, where there are willing sellers, that face high development risks, and where there are opportunities to leverage funding through grants and partnerships.

The *Valley Greenprint* is a dynamic document and will be updated as information or conditions change so that it can continue to guide the Authority's decisions about where and how to invest in land conservation and stewardship projects in the region. The *Valley Greenprint* was prepared using Geographic Information System (GIS) data and information that resulted from several recent and innovative studies, including the *Conservation Lands Network* and *Bay Area Critical Linkages* projects. As new studies are completed, the Authority will integrate new data and information into the *Valley Greenprint* GIS to support future conservation decisions. The Authority will continue to engage with partners to fill information gaps and refine goals and strategies based on contemporary research, changing funding sources, and emerging trends in order to improve the effectiveness of the *Valley Greenprint* over time.

The *Valley Greenprint* will be implemented through a series of strategic implementation plans that will identify specific high-priority initiatives and actions ranging from land acquisition to organizational capacity building. Strategic plans will identify measures of success, and serve as the foundation for the Authority's annual work plans and related budgets.



Open Space Authority wildlife cam

The *Valley Greenprint* will serve as a guide for the Authority's open space protection moving forward, and will be updated to reflect new information and conditions.

Integrated Conservation Actions

Coming decades will see population growth, urbanization, and climate change putting unprecedented pressure on the Valley's open space, natural resources and agricultural lands and the services they provide. Meeting the ambitious goals set forth in the *Valley Greenprint* will require use of tried and true tools such as fee purchase of property, conservation easements, and on-the-ground resource management projects. Implementation will also require new ways of thinking, innovative approaches, and creative solutions. In keeping with the Silicon Valley tradition of developing innovative solutions to ever-changing problems, the Open Space Authority will implement new models and approaches in its work to protect land and resources. In the first years following rollout of the *Valley Greenprint*, the Authority will pursue a number of related conservation actions:

Concentrate Efforts in the *Valley Greenprint*'s Conservation Focus Areas

By taking an integrated approach to conservation and focusing on areas where open space protection can accomplish multiple objectives – protection of water, wildlife, and working lands – the Authority and its partners can preserve the richest and most diverse areas and maximize return on conservation investments. The Authority will work with willing sellers and conservation partners to advance land acquisition and stewardship projects in the region's 10 most important landscapes. Protecting large natural areas and landscape linkages such as Coyote Valley and along the Pajaro River will preserve habitat for a wide array of species and will maintain essential ecosystem services including water supply and carbon sequestration. Protecting streams and riparian areas will preserve vital habitat for many of the region's rare and endangered species, and will help species persist in the face of climate change by maintaining relatively cool, wet and shady areas, and by allowing species to move across the landscape and shift their ranges as environmental conditions become warmer and drier. These areas will require active management, particularly with respect to habitat restoration, invasive species, fire management, and protection of water resources.

Cait Hutnik

Preserving watersheds can help maintain ecosystem services including provision of safe drinking water.

Identify New Sources of Funding

As the Authority looks toward the coming decades, it will be challenged to develop additional funding sources to implement and maintain its land acquisition, stewardship, and educational and recreational projects. The Authority will pursue new funding sources and tools, including publicly supported funding measures and payment for ecosystem service (PES) programs. Such programs and related markets offer great promise in the next few years as a new source of funding for local conservation efforts. Successful PES projects are in place in Oregon's Willamette Valley and in other parts of the country, where credits can be sold or traded to meet strict environmental standards. There is no reason why Silicon Valley as a center of innovation and entrepreneurism should not benefit from this flexible, market-based tool that protects the environment and supports business. The Authority will pursue partnerships with local and state agencies and with business leaders to explore the feasibility of developing local PES programs – likely around the issues of water quality or carbon sequestration.

Protect Natural Capital and Ecosystem Services

Santa Clara County's natural capital must be protected to ensure healthy landscapes, healthy communities, and a healthy economy. Integrating ecosystem services into land use policies and regulation at all levels will help coordinate conservation actions that protect these services across the region.

By learning to understand the economic benefit of these services, and the built infrastructure costs they help avoid, we can make strong arguments for the protection of open space lands

and natural resources. With good measures and metrics in hand, the Authority can help ensure that the public and private sectors – including land use, utility, development, and transportation plans – consider these important resources to ensure continued protection of essential ecosystem services.

Protect Green Infrastructure to Reduce Climate Risks and Support Healthy Communities

Protection and restoration of our natural capital – floodplains, wetlands, grasslands, and riparian areas – can help reduce the risks to our cities from increased flooding and other anticipated impacts related to climate change (Tercek and Adams 2013). When preserved near cities, natural floodplains, riparian areas, and tidal areas can provide unique opportunities for public enjoyment and can result in far more compact and livable cities. The Authority is working to document how land conservation and green infrastructure investments at the urban edge can protect vital ecosystem services that may be impacted by climate change – including groundwater recharge and flood control – and how these nature-based investments can ultimately reduce taxpayer costs associated with stormwater infrastructure, water delivery, and other public utilities and service costs.

Keep Agricultural Lands Working for People and Nature

Cattle grazing has historically occurred throughout the Diablo Range across hundreds of thousands of acres in the Authority's eastern jurisdiction. Effective management of these working lands through grazing provides vital ecosystem services including wildfire protection, landscape linkages for wildlife, and carbon sequestration. Land acquisition alone, whether in fee or conservation easement, is not feasible to meet the *Valley Greenprint*'s goals for this region. The Authority will work with partners like the Natural Resources Conservation Service to develop and promote incentive or cost-share programs that reward ranchers for implementing effective stewardship projects such as fencing riparian habitat. Use of these programs can increase the environmental and economic viability of cattle grazing operations on both public and private lands, increasing the level of stewardship across the landscape and the likelihood that rangelands will persist over time.

Patrick Miller

The Authority can help encourage effective stewardship of working lands in ways that support farmers and ranchers while promoting habitat linkages and other conservation benefits.

Conserving working landscapes will also require effective statewide policy including support for Williamson Act payments and new tax benefits that reward agricultural conservation and good land stewardship practices. The Authority will explore other tools that can make working lands more viable and affordable to growers, including agricultural pension programs, farmland equity investments, and new conservation easement models such as term or affirmative easements.

Support Conservation Partnerships

Implementation of the *Valley Greenprint* will require close collaboration with partners to leverage funding for conservation and open space protection. In the coming years, the Authority plans to engage even more with landowners, city and county planning agencies, local elected officials, other land trusts and conservation groups, community organizations and advocacy groups. The Open Space Authority is in an excellent position to serve as a liaison between these groups and to establish and support relationships to create efficiency and shared resources across the many stakeholders involved in conservation within the region. The Authority will also support collaborative efforts among the Bay Area's conservation leaders. For example, The Nature Conservancy, Greenbelt Alliance, Bay Area Open Space Council, and

American Farmland Trust are working together to advance open space protection through four key efforts: (1) Regional Advanced Mitigation Planning, where mitigation funding from separate transportation projects is bundled and directed to strategic conservation priorities; (2) securing a fivefold increase in funding to implement *Plan Bay Area*'s Priority Conservation Areas to $50 million; (3) creation of a model agricultural enterprise strategy to promote the economic viability of agricultural lands at the urban edge; and (4) identification of potential new local, regional, and state funding sources to replace dwindling funds from statewide bond measures.

Protect Urban Open Space and Trail Connections

There may be no more effective means of creating vibrant and livable communities than by protecting urban open space, natural areas, and farmland in and around the Santa Clara Valley's cities, aligning with *Plan Bay Area* goals to limit sprawl and reduce greenhouse gas emissions. The Authority will seek new funding and partnerships with cities to complete projects that connect people to nature close to home. Urban open space projects lend themselves to green infrastructure solutions such as local creek and floodplain restoration projects that could help mitigate flooding. Closing gaps in trails provides safe routes between neighborhoods and parks, and is vital for public health as well as to facilitate access to nature and inspire the next generation of land stewards and environmental leaders.

The Authority will partner with the County, cities and nonprofit organizations to strengthen and expand investment in urban open space by seeking new funding to support public-private open space partnerships that contribute to the health and safety of our communities, including maintaining sustainable, climate-resilient cities.

Focus on Education, Outreach, and Empowerment

Engaging the public is essential for building broad-based support for conservation and maintaining political and financial support – as well as for encouraging healthy lifestyles and healthy communities. In concert with partners such as the Wildlife Education Rehabilitation Center, the Authority will continue its educational programs to foster an appreciation of nature throughout the community, including outreach specifically to community leaders and decisionmakers. Through greater use of technology to link people to nature, field trips with hands-on learning activities, and new partnerships to bring nature into schools, the Authority will strive to inspire the next generation of land stewards and environmental leaders.

Mike Gioia

The Open Space Authority will continue to engage the public, connect people to nature close to home, and inspire the next generation.

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Mike Gioia

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Appendix

Regional Conservation Priorities Model Criteria

The *Valley Greenprint* (Figure 2) was prepared by combining and weighting many different GIS layers, as shown in the table below. The weights were derived based on input the Authority received during the planning process, and reflect the relative importance the community placed on different conservation values. The Authority will use the Valley Greenprint as a reference to inform its conservation work, in consultation with subject-specific experts and open space partners.

Goal	Criteria	Weight	Source
Biodiversity		30%	
	Rare, threatened and endangered species		California Department of Fish & Wildlife
	Vegetation communities and rarity		San Francisco Bay Area Upland Habitat Goals Project
	Historic wetland habitats		San Francisco Estuary Institute
	Aquatic biodiversity		Dr. Jerry Smith
	Wildlife linkages		SC Wildlands, California Department of Fish & Wildlife, The Open Space Authority
	Anadromous fish passage		Santa Clara Valley Habitat Agency, Dr. Jerry Smith
Water Resources		30%	
	Floodplains		Santa Clara Valley Water District
	Levees		California Department of Water Resources
	Watersheds		Santa Clara Valley Water District, The Open Space Authority
	Groundwater aquifer		California Department of Water Resources, Santa Clara Valley Water District
	Water supply provision		US Geological Survey, UC Davis, Terrestrial Biodiversity Climate Change Consortium
	In-stream groundwater recharge		Santa Clara Valley Water District, The Open Space Authority
	Streams and water bodies		Santa Clara Valley Water District, US Geological Survey
	Impervious surface		US Geological Survey
	Sea level rise inundation zone		US Geological Survey
	Floodplains		Santa Clara Valley Water District
Working Farms & Ranches		15%	
	Cultivated agriculture		
	Soil characteristics		California Department of Conservation, Natural Resources Conservation Service
	Parcel attributes and boundaries		Santa Clara County
	Crop attributes and boundaries		Santa Clara County Department of Agriculture
	Wells		Santa Clara Valley Water District
	Rangeland		California Department of Conservation, The Open Space Authority
	Timber management		California Department of Forestry and Fire Protection
Recreation		15%	
	Trails		Santa Clara County, Cities of San Jose, Morgan Hill, and Campbell, US National Park Service
	Existing parklands and protected areas		Green Info Network, Santa Clara County Parks Department
	Parkland suitability		Santa Clara County Parks Department
Viewshed		10%	
	Viewshed		The Open Space Authority
	Scenic highways		Santa Clara County
	Urban areas		California Department of Conservation
	Exurban development		San Francisco Bay Area Upland Habitat Goals Project

Glossary

Anadromous: Fish that spend most of their lives in ocean waters, but run upstream to spawn in fresh water; for example, Chinook salmon and steelhead.

Adaptive management: A dynamic, structured process of iterative decisionmaking for natural resource management that allows for integration of feedback, new information, and environmental changes.

Agricultural viability: Agriculture that is profitable and sustainable over the long-term.

At-risk species: Species not included on federal threatened, endangered, or imperiled species lists but on local or state lists. For example, American Badger is listed as a Species of Special Concern by the California Department of Fish and Game.

Biodiversity: The variability among living organisms and the ecological complexes of which they are part. It includes genetic diversity, the richness of species, and the variability of communities and ecosystems.

California Protected Areas Database (CPAD): A GIS database with data about lands that are owned in fee and protected for open space purposes (ranging from small parks to large wilderness areas) by almost 1,000 public agencies or nonprofit organizations. The database is maintained by the nonprofit GreenInfo Network.

Carbon sequestration: The removal of carbon from the atmosphere and storage in carbon sinks (such as oceans, forests, or soils) through physical or biological processes, such as photosynthesis; the process of increasing the carbon content of a reservoir other than the atmosphere.

Climate change: Recent changes in global patterns of temperature and precipitation, often referred to as global warming, and linked to increasing concentrations of greenhouse gases resulting from human activity such as the burning of fossil fuel and deforestation.

Climate refugia: Areas that are more likely to be climatically stable or support species in the face of climate change. For the predicted hotter and drier climate, climate refugia include streams, ponds, lakes, wetlands, springs, and north-facing slopes.

Climate-resilient: Areas or species that are able to withstand stresses to a greater degree (are more resistant) or are able to recover from climate-related stresses more rapidly (are more resilient) than other species or areas.

Community (biological): The plants, animals, and other organisms (*e.g.* fungi and bacteria) that co-occur within a given area.

Connectivity: The continuity of the landscape such that animals and populations of plants can move unimpeded by natural or anthropogenic barriers. Also known as habitat connectivity.

Conservation easements: Legal agreements between a landowner and a land trust or government agency that permanently limit the use of the land in order to protect its conservation values.

Corridor: An area that links two habitat areas that are otherwise separated by non-habitat.

Cultivated agriculture: Area of landscape actively managed for the production of food, feed, and fiber.

Ecological integrity: The ability of an ecosystem to maintain essential ecological processes, functions, and structures and to adapt to spatial and temporal changes.

Ecological restoration: The process of assisting the recovery of an ecosystem that has been degraded, damaged, or destroyed.

Ecosystem: The sum of a natural community and its environment treated together as a functional system that transfers and circulates energy and matter (Groves 2003).

Ecosystem service markets (conservation markets): Mechanisms that create a market for ecosystem services in order to improve the efficiency of how the service is used.

Ecosystem services: The direct and indirect benefits accrued from services naturally provided by the environment from which both human beings and all other organisms benefit.

Endangered: Likely to face extinction. Federally endangered species have been listed by the United States Government under the federal Endangered Species Act. State-listed endangered species have similarly been listed under the California Endangered Species Act.

Endemic: Native to an area, and found only within that area. For example, a species that is endemic to Santa Clara County naturally occurs only within Santa Clara County.

Exurban development: Refers to low-density, large lot residential (non-agricultural) development that is located within or near a metropolitan area, but outside the urban area.

Geographic Information System (GIS): A complex database used to store, manage, and analyze spatial information. A GIS system allows storage, mapping, and analysis of data to facilitate problem-solving.

Grazing management (conservation grazing): The use of grazing animals to achieve desired ecological, social, and economic outcomes.

Green infrastructure: Refers to an approach that communities can choose in order to maintain healthy waters, provide multiple environmental benefits and support sustainable communities. Unlike single-purpose gray infrastructure, which uses pipes to dispose of rainwater, for example, green infrastructure uses vegetation and soil to manage rainwater where it falls. By weaving natural processes into the built environment, green infrastructure provides not only stormwater management, but also flood mitigation, air quality management, provision of habitat, many other ecosystem services.

Habitat: Specific areas of an ecosystem used by individual species. May be defined by vegetation, temperature, exposure, topography, etc.

Habitat Conservation Plan (HCP): An agreement required under the Federal Endangered Species Act, along with an Incidental Take Permit, when non-federal activities will result in take (loss) of threatened or endangered wildlife. A Habitat Conservation Plan is intended to ensure that the take is minimized and mitigated.

Linkage: A specific area or region that supports connectivity between habitats.

Mitigation: An anthropogenic intervention to reduce negative or unsustainable uses of ecosystems or to enhance sustainable practices.

Natural capital: The land, air, water, living organisms and all formations of the Earth's biosphere that provide us with ecosystem goods and services imperative for survival and well-being. Natural capital is the basis for all human economic activity.

Natural Community Conservation Planning (NCCP): A cooperative program of the California Department of Fish and Game, begun in 1991 and designed to conserve natural communities at the ecosystem level and thus protect habitats and species. An NCCP is run by a local agency, and involves landowners, environmental organizations, and other public and private partners to develop a conservation plan with support from the Department of Fish and Game and the US Fish and Wildlife Service.

Pacific flyway: The major north-south route for birds migrating along the west coast of the Americas, from Alaska south to Patagonia. The San Francisco Bay Estuary serves as a critical rest stop for millions of birds each year.

Payment for ecosystem services (PES): Financial incentives to landowners in exchange for managing land in a way that protects and maintains one or more ecological values or ecosystem services; a variety of arrangements through which the beneficiaries of ecosystem services pay back the providers of those services.

Permeability: Degree to which the landscape is unfragmented and intact, thus facilitating movement of wildlife and ecological processes such as plant dispersal and gene flow.

Protected lands: Lands that are held in fee title or protected via conservation easement by public agencies and non-governmental organizations.

Resilience: The ability of a species or system to return to its original condition following a disturbance or other event.

Riparian corridor: The plant community growing alongside a river, stream, lake, lagoon, or other freshwater body. As the interface between land and water, these habitats provide important habitat for a number of species.

Serpentine: An ultramafic soil type derived from serpentinite rock. These nutrient-poor soils with a low calcium-magnesium ratio are inhospitable to the European grass species that have invaded most of California's native grasslands. As a result, serpentine grasslands in the Bay Area host a number of rare and endangered species, many of which are endemic.

Stewardship: Careful protection and management of land and water that maintains the long-term productivity of the natural systems.

Sustainability: Meeting the needs of the present generation without compromising the ability of future generations to meet their own needs.

Watershed: An area of land in which draining water converges to a single place, often a stream, river, or ocean.

Williamson Act: The Williamson Act of the US state of California (officially, the California Land Conservation Act of 1965) is a California law that provides relief of property tax to owners of farmland and open-space land in exchange for a ten-year agreement that the land will not be developed or otherwise converted to another use. The motivation for the Williamson Act is to promote voluntary land conservation, particularly farmland conservation.

Working lands: Lands managed by humans for the production of commodities (food, fiber, and other materials), including farmland, rangeland, and timberland.

Glossary definitions adapted in part from BAOSC 2011 and Mackenzie *et al.* 2011.

OPEN SPACE AUTHORITY
SANTA CLARA VALLEY