

SUSTAINABILITY

NATURAL AND FARM LANDS CONSERVATION

SOUTHERN CALIFORNIA ASSOCIATION OF GOVERNMENTS



TECHNICAL REPORT

DRAFT FOR PUBLIC REVIEW AND COMMENT

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EXECUTIVE SUMMARY

This report outlines Connect SoCal Plan's integrated land use and conservation planning approach that seeks to protect the environment and reduce greenhouse gas emissions while meeting the needs of current and future populations.

The framework for Connect SoCal Plan's conservation strategy is established by State laws AB 32 (2006) and SB 32 (2016), which establish targets for greenhouse gas reductions from all sources in California. California's 2017 Climate Change Scoping Plan, which establishes pathways to get California to its 2030 targets, includes natural and farm land conservation as a strategy for greenhouse gas reduction. The Scoping Plan specifically aims to reduce emissions by at least 15-20 million metric tons in 2030 through its conservation strategies. To model potential reductions for Connect SoCal Plan, a data methodology was developed to identify where future growth could be reduced and instead prioritize important habitat types, connectivity, and biodiversity.

In acknowledgement of this need for conservation and to address climate change's impacts, local and regional agencies throughout the SCAG region have worked to establish and/or implement a variety of policies and plans to protect threatened natural and farm lands. This report provides an updated overview of such projects taking place throughout the region.

The report concludes with specific strategies and policies SCAG and local agencies can adopt to implement conservation activities throughout the region.

INTRODUCTION

The diverse natural and agricultural landscapes of Southern California are an invaluable asset to the millions of people that call the SCAG region home. These resources ensure a robust economy, provide clean drinking water, protect the air and host countless recreation activities. In addition to desert, mountain and coastal habitats, some of the highest concentrations of native plant and animal species on the planet are found within our region. In fact, Southern California is part of the California Floristic Province, one of the planet's top twenty-five biodiversity hot spots.¹ Additionally, much of the SCAG region has a rich agricultural history, and crop sales continue to bring billions of dollars into our local economy.

However, as the SCAG region's population and economy continue to grow, vital habitat and farm lands face development pressure. In addition to their respective roles in biodiversity and food production, both natural and farm lands help reduce the impacts of climate change by capturing greenhouse gases in the soil, plants and trees instead of allowing them to concentrate in the atmosphere. Furthermore, urban, suburban and even rural development on farm and natural lands distant from job centers and transit infrastructure can often result in increased greenhouse gas emissions and an attendant increase in per-capita vehicle miles travelled (VMT). Finally, the conservation of natural and farm lands on the edges of urban and suburban development is an integral aspect of the Sustainable Communities Strategy, because it incentivizes infill development and the concentration of different land uses. This makes it easier to travel shorter distances which reduces greenhouse gas emissions.

A planning approach that integrates land use and conservation strategies is paramount to protecting the environment and reducing greenhouse gas emissions while meeting the needs of current and future populations. The Connect SoCal Plan points to an updated land use approach that prioritizes the concentration of development in areas that are frequently served by public transportation and/or provide opportunity for shorter and shared multimodal

trips. A complementary piece of the integrated land use strategy should ensure the protection of lands on the edge of existing urban development. Otherwise, development of previously open lands on the urban/suburban edge can undermine the economics of building in transit-rich and infill communities. If the direct costs of developing within established city limits, spheres of influence, near urban services or proximate to transit infrastructure outweigh potential revenues, the pressure to build sprawl-type communities in fringe areas increases, which can lead to the consumption of the region's valuable agricultural and natural lands. Many counties and cities in Southern California have excelled in their work to protect these vulnerable lands, but few regional plans or policies have been enacted to preserve habitat and farm lands on a regional scale. With a regional population expected to increase by 3.6 million people by 2045, conservation decisions made now can safeguard the endurance of these lands, protecting threatened wildlife and the local agricultural economy and reducing carbon emissions, while also contributing to a high quality of life for future generations.

VISION: MEETING CONNECT SOCAL PLAN'S GOALS

The Connect SoCal Plan prioritizes natural and farm lands conservation as one of its main goals: *Promote conservation of natural and agricultural lands and restoration of habitats*. Preserving the region's natural resource areas will ensure that future generations will be able to enjoy Southern California's unique landscapes as we do. Restoration of habitats degraded by pollution, invasive species and other factors is a crucial next step to safeguard their ecological function and longevity.

Furthermore, conservation of natural and farm lands is an essential strategy to meet Connect SoCal's goal to *Reduce greenhouse gas emissions and improve air quality*. Specifically, conservation reduces greenhouse gasses in two major ways: emissions avoidance and carbon sequestration.

Emissions avoidance refers to the greenhouse gas emissions saved by *not* converting natural and farm lands into more intensive uses. Protecting these important resource areas, especially near existing cities, helps avoid emissions

¹ Myers, N., R.A. Mittermeier, C.G. Mittermeier, G.A.B. da Fonseca, J. Kent. (2000). Biodiversity Hotspots for Conservation Priorities

from vehicular transportation. Additionally, this strategy supports more compact development patterns, reducing the need to make long car trips and reducing vehicle miles travelled (VMT). While agricultural lands do account for some greenhouse gas emissions, farmlands emit on average 58 times less greenhouse gasses than urbanized areas.²

Carbon sequestration is the natural process in which vegetation and soil captures and stores atmospheric carbon dioxide, preventing it from contributing to greenhouse gas emissions. The SCAG region's diverse natural landscapes have enormous storage potential. For example, a study by the California Oak Foundation finds Southern California's oak trees store around 2.6 million metric tons of carbon. Croplands such as orchards and vineyards also store carbon, and a variety of agricultural practices can improve sequestration in the soil, such as cover cropping and reduced tillage.

There are numerous additional benefits to natural and farm land conservation. For example, natural areas play an important role in ground water recharge, and protecting watershed and riparian areas ensures clean drinking water for the region. Finally, natural and farm land conservation directly supports other Connect SoCal goals, outlined below:

- **Encourage regional economic prosperity and global competitiveness.** Productive farm and range lands bring billions of dollars into Southern California's economy, creating jobs and providing food security. All of the SCAG counties have agricultural resources. Converting these lands to urban development weakens this vital industry and the region's position in the US economy.
- **Support healthy and equitable communities.** Air pollution is one of Southern California's greatest public health challenges. Adverse outcomes associated with air pollution such as asthma, cardiovascular disease and cancer disproportionately affect the region's most vulnerable groups: children, the elderly, people of color and low-

income communities. Natural lands conservation and urban greening, especially in or near the most impacted communities, improve air quality as well as opportunities for physical recreation and other activities that contribute to a healthy lifestyle.

- **Adapt to a changing climate and support an integrated regional development pattern and transportation network.** Climate change's effects such as drought, rising temperatures and increasingly destructive wildfires are already evident in Southern California. Strategic conservation and restoration of natural and farm lands will heighten the region's resiliency to these impacts. Avoiding development in fire-prone areas, protecting watersheds, and restoring and enhancing connectivity in fragmented habitats are priorities when considering future regional development patterns.

POLICY AND REGULATORY FRAMEWORK

The framework for Connect SoCal's conservation approach is established by the California Global Warming Solutions Act of 2006 known as AB 32, as well as its associated legislation, SB 32 (2016). AB 32 and SB 32 establish targets for greenhouse gas reductions from all sources in California. California's 2017 Climate Change Scoping Plan released by the Air Resources Board outlines sector-specific approaches for reducing statewide greenhouse gas emissions to 40 percent below 1990 levels by 2030. The Scoping Plan includes natural and farm land conservation as a strategy for greenhouse gas mitigation, and specifically aims to reduce emissions by at least 15-20 million metric tons in 2030 through its conservation strategies. The Scoping Plan explicitly makes the connection between conservation, transportation and land use, stating that "Transportation and land use planning should minimize the footprint of the built environment, while supporting and investing in efforts to restore, conserve and strengthen natural and working lands." In January 2019, the State released the 2030 Natural and Working Lands Climate Change Implementation Plan, which outlines the conservation, restoration, and management activities needed to meet the sector goal by 2030.

Moreover, as required by SB 375 (2008), Connect SoCal will set forth a

² Shaffer, T., Thompson, E. (2015). A New Comparison of Greenhouse Gas Emissions from California Agricultural and Urban Land Uses

forecasted development pattern for the region, which, when integrated with the transportation network, and other transportation measures and policies, will reduce greenhouse gas emissions from automobiles and light trucks. By considering the region's resource areas and farmland, Connect SoCal will acknowledge inherent constraints to expansive regional growth, and will emphasize options and strategies that conserve important farmland, resource areas and habitat corridors.

While they do not establish any specific requirements or mandates for compliance, the Scoping Plan, the Natural and Working Lands Climate Change Implementation Plan, and SB 375 acknowledge that success depends on participation by regional agencies such as SCAG, local governments and private land owners. For the past several years, many of the SCAG region's local governments and public agencies have taken action to conserve natural and farmlands through a number of policies and programs. More information about the programs can be found in the Existing Conditions section of this report.

ANALYTICAL APPROACH

REGIONAL CONSERVATION APPROACH

Connect SoCal's regional conservation approach considers the economic and ecological benefits of preserving natural and farm lands, while also maximizing their potential for greenhouse gas reduction. New housing and employment growth will therefore be emphasized in "Priority Growth Areas" (PGAs) such as Job Centers and High Quality Transit Areas (HQTAs), and away from natural and farm lands on the edges of urban and suburban areas. This emphasis on concentrated, compact growth makes it easier to travel shorter distances, which reduces per-capita greenhouse gas emissions.

Natural areas and farmlands have the capacity to absorb and store atmospheric carbon dioxide, preventing additional contributions of greenhouse gas emissions. In addition, natural lands conservation is imperative to protect communities from major hazards caused or exacerbated by climate change, such as wildfires and flooding. Accordingly, the Connect SoCal Plan will expand

upon the conservation policy recommendations from the 2012 and 2016 RTP/SCS with broad land use strategies that deemphasize growth on agricultural lands in unincorporated counties, and in areas vulnerable to sea level rise. To further prioritize natural habitat areas and avoid impacts to the environment, Connect SoCal will seek to deemphasize growth in wetlands, wildlife corridors, high-biodiversity areas, wildfire prone areas, and floodplains. This approach intends to focus regional growth in existing communities, and reflects various goals of the plan such as adapting to a changing climate and promoting conservation of agriculture and natural lands.

SCENARIO DESIGN

Conservation is an important aspect of Connect SoCal's scenario methodology. SCAG created absolute and variable constraints to development that are consistent across each of Connect SoCal's three scenarios. Absolute constraints to development include agriculture in unincorporated counties, specifically important agriculture identified by the State Farmland Mapping and Monitoring Program (FMMP). Variable constraints areas (where growth will be avoided except when constraint conflicts with accommodating the jurisdictional growth total) include wild-urban interface areas, grazing land and important farmland within cities. These constraints help to focus growth in existing communities and reflect various goals of the plan like adapting to a changing climate and promoting conservation of agriculture and natural lands. More information about the scenarios and constraint principles can be found in the Sustainable Communities Strategy Technical Report.

A final variable growth constraint principle was developed to further identify and prioritize lands to avoid development based on themes of wetland conservation, connectivity and biodiversity. These themes were identified with guidance from the stakeholder-based Natural & Farm Land Conservation Working Group as high priorities for conservation in the SCAG region based on factors such as climate change, water quality and decline of native species. Under the variable constraint principle, these lands are the last to consider for development. **TABLE 1** shows the data and sources used for each focus area.

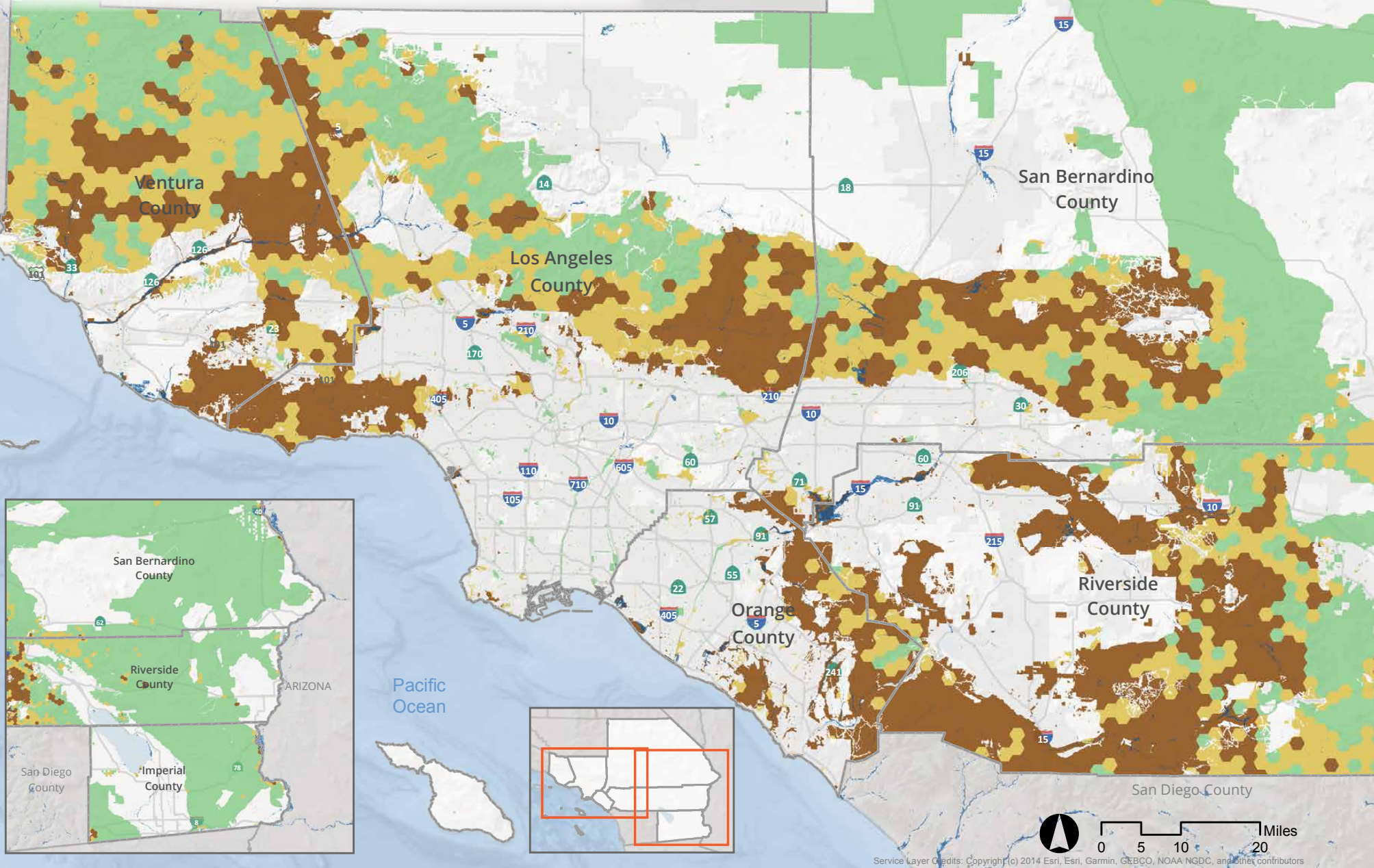
For a visualization of the growth constraint principle on a regional scale, please see **EXHIBIT 1** on the following page.

In order to ensure consistency throughout the region, most of the datasets encompass at minimum the entire state of California. The exception is South Coast Missing Linkages, which has the most fine-grain data but does not cover portions of Riverside and San Bernardino Counties. The California Essential Habitat Connectivity Project dataset covers the missing portions, but it is at a more coarse scale. Wetlands are placed first in the hierarchy because they are a definitive land use type that often falls outside of connectivity areas (especially in urban areas). They are an important land type to preserve because of their function in the watershed system. Other declining land types, such as riparian or oak are already covered by the ACEIIV2 Bio Rank levels 4 and 5. The datasets and methodology were reviewed and vetted by Natural & Farm Land Conservation Working Group members as well as biologists specializing in habitat conservation in the SCAG region.

TABLE 1 Final Growth Constraint Principle for Conservation Areas

Focus Area	Dataset(s)	Year	Source
Wetlands	USA NLCD Land Cover	2011	US Geological Survey
Habitat Connectivity	South Coast Missing Linkages	2018	South Coast Wildlands
	California Essential Habitat Connectivity Project	2010	California Department of Fish and Wildlife
Habitat Quality	ACEIIV2 (Areas of Conservation Emphasis) dataset	2015	California Department of Fish and Wildlife

EXHIBIT 1 Natural Lands Conservation Areas County



Service Layer Credits: Copyright (c) 2014 Esri, Esri, Garmin, GEBCO, NOAA NGDC, and other contributors

- Wetlands
- Habitat Connectivity Areas
- High Species Richness (Level 4 of 5)
- Highest Species Richness (Level 5 of 5)

Source: U.S. Geological Survey, 2011; South Coast Wildlands, 2018; California Department of Fish and Wildlife, 2010 & 2015

METHODOLOGY

The following steps were taken to organize GIS data for the final variable constraint principle:

1. Identify wetlands: Clip USA NLCD Land Cover 2011 Dataset to the SCAG region and isolate the two attributes for wetlands: Woody Wetlands and Emergent Herbaceous Wetlands.
2. Identify habitat connectivity areas: Clip South Coast Missing Linkages Dataset to the SCAG region. Join and clip California Essential Habitat Connectivity Project data to areas not covered by South Coast Missing Linkages.
3. Identify areas of high species richness within habitat connectivity areas: Clip ACEIIV2 data to the SCAG region, and create a query to isolate levels 4 and 5 (5 being the highest species richness levels of rarity and irreplaceability). Clip this layer to the habitat connectivity layer, and spatial join habitat quality and spatial join layers.
4. When determining areas to avoid development, the hierarchy is as follows:
 - Woody Wetlands and Emergent Herbaceous Wetlands (regardless of location within or without connectivity areas)
 - Areas of high species richness (ACEIIV2 BioRank levels 4 and 5) within connectivity areas
 - Habitat Connectivity areas without ACEIIV2 BioRank levels 4 and 5

PERFORMANCE AND OUTCOMES

New to the Sustainable Communities Strategy is the integration of the Conservation Module into the Scenario Planning Model (SPM).³ Developed as a partnership between the Nature Conservancy and UrbanFootprint, this tool quantifies the impacts of land use decisions on the environment across major conservation themes including agriculture, carbon storage, habitat, and water. The module results indicate that most of Connect SoCal Plan's impacts differ marginally from the trend, varying from less than half of a percent to three percent.

AGRICULTURE

With Connect SoCal's agricultural conservation strategies, there will be 4,772 more acres of productive agricultural land than the trend. Furthermore, 3,369 less acres of farmland classified as "Important" by the California Department of Conservation will be converted to urban uses. This is a notable 33 percent improvement from the trend, which will see over 10,000 of these acres converted. With this much more land in production, the region's economy will benefit from nearly \$18 million more in agricultural production value. **(TABLE 2)**

CARBON STORAGE

While it meets the 19 percent greenhouse gas reduction goal, the Connect SoCal Plan does show a minor impact on the region's carbon storage capacity. According to the Conservation Module, there will be 0.03 percent less carbon stored in above and below ground stocks than the trend. **(TABLE 3)**

³ For more information about the Scenario Planning Model, please see the Sustainable Communities Strategy Technical Report.

TABLE 2 Conservation Module Performance Results: Agriculture

	Trend	Connect SoCal	Difference from Trend	Percent Change
Agriculture Production Value (\$), total	\$3,543,507,241	\$3,561,365,881	\$17,858,640	0.50%
Agricultural Land (acres), total	887,706	892,477	4,772	0.54%
Important Farmland Converted to Urban (acres) from the existing				
Prime Farmland	3,187	1,757	-1,430	-44.87%
Farmland of Statewide Importance	999	837	-162	-16.25%
Unique Farmland	1,130	374	-756	-66.94%
Farmland of Local Importance	4,785	3,764	-1,021	-21.33%
Total Important Farmland	10,101	6,732	-3,369	-33.35%

Source: California Department of Conservation Farmland Mapping and Monitoring Program, UrbanFootprint Conservation Module

TABLE 3 Conservation Module Performance Results: Carbon Storage

	Trend	Connect SoCal	Difference from Trend	Percent Change
Above Ground Carbon Stocks (metric tons)	21,895,329	21,890,215	-5,114	-0.02%
Below Ground Carbon Stocks (metric tons)	51,831,331	51,817,745	-13,586	-0.03%
Total Carbon Stocks (metric tons)	73,726,660	73,707,960	-18,700	-0.03%

Source: UrbanFootprint Conservation Module

HABITAT

Connect SoCal's conservation strategies prioritize having the least impact on natural habitats, especially areas high in biodiversity and those important for wildlife connectivity. However, the final Connect SoCal Plan does carry some impact on the Natural Lands Conservation Areas described earlier in this report. With the Connect SoCal Plan, just over 5,000 acres will be developed, an increase of 0.05 percent from the trend. However, the plan does show minor improvements in habitat for species vulnerable to climate change and threatened and endangered species. (TABLE 4)

WATER

Regarding urban development on water priority resource areas, the Connect SoCal Plan shows a slight improvement from the trend. Urban development on flood plains and drinking water source water sheds is reduced by more than one percent, respectively. Wetlands and active river areas also see slight reductions in urban development. Additionally, compared to the trend, there will be 20,323 (0.6 percent) less acres of degraded catchment areas, and a three percent increase in the watershed integrity of important riparian buffers (the land on either side of rivers and streams.) (TABLE 5)

TABLE 4 Conservation Module Performance Results: Habitat

	Trend	Connect SoCal	Difference from Trend	Percent Change
Essential Connectivity Areas (acres)				
Urban Acres	130,848	130,028	-821	-0.63%
Active Farmland Acres	39,028	39,381	352	0.90%
Natural Acres	4,676,368	4,676,836	468	0.01%
SCAG Natural Lands Conservation Areas (acres)				
Urban Acres	256,787	261,393	4,606	1.79%
Active Farmland Acres	63,996	64,488	492	0.77%
Natural Acres	14,467,020	14,461,921	-5,099	-0.04%
Acres of Habitat Improved (acres), from the existing				
Threatened and Endangered Species	29	311	282	972.00%
Species Vulnerable to Climate Change (Except Birds)	44	354	310	704.55%
Species Vulnerable to Climate Change (Birds)	1,265	1,525	260	20.55%
Acres of Habitat Degraded (acres), from the existing				
Threatened and Endangered Species	8,365	7,899	-466	-5.58%
Species Vulnerable to Climate Change (Except Birds)	10,456	9,621	-835	-7.98%
Species Vulnerable to Climate Change (Birds)	15,231	12,778	-2,453	-16.10%

Source: UrbanFootprint Conservation Module

TABLE 5 Conservation Module Performance Results: Water

	Trend	Connect SoCal	Difference from Trend	Percent Change
Water Priority Resource Areas				
Flood Plains (acres)				
Urban Acres	88,391	87,210	-1,181	-1.34%
Active Farmland Acres	86,837	86,765	-72	-0.08%
Natural Acres	648,278	649,532	1,254	0.19%
Wetlands (acres)				
Urban Acres	57,348	57,020	-328	-0.57%
Active Farmland Acres	14,752	14,770	18	0.12%
Natural Acres	871,095	871,404	310	0.04%
Active River Area (acres)				
Urban Acres	523,606	522,426	-1,180	-0.23%
Active Farmland Acres	206,376	206,634	258	0.12%
Natural Acres	5,299,677	5,300,599	922	0.02%
Drinking Water Source Watersheds (acres)				
Urban Acres	29,668	29,331	-336	-1.13%
Active Farmland Acres	6,574	6,599	25	0.38%
Natural Acres	1,659,615	1,659,926	311	0.02%
Watershed Integrity (acres)				
Degraded Catchment	3,725,816	3,705,494	-20,323	-0.55%
Important Riparian Buffe	675,945	696,190	20,246	3.00%
Natural Catchment	17,480,679	17,480,756	77	0.00%

Source: UrbanFootprint Conservation Module

EXISTING CONDITIONS

NATURAL LANDS

A range of local conservation plans, habitat conservation agencies and state/federal park designated areas provide protection for a significant amount of natural and farm land in the SCAG region (**EXHIBIT 2**). However, the majority of these protected lands are in remote desert areas far from incorporated areas. Therefore, a substantial amount of land on the urban and suburban fringe is vulnerable to development. Protected areas tend to not be distributed evenly across habitat types, leaving some habitat types largely unprotected. SCAG's 2015 Conservation Framework and Assessment finds that many of the high-biodiversity habitats that play a key role in the region's ecosystem are adjacent to urban and suburban communities, and do not have protected status. Furthermore, many habitats, both protected and unprotected, are in need of restoration efforts such as non-native species removal, re-introduction of native species, erosion control and re-connecting fragmented areas.

FARM LANDS

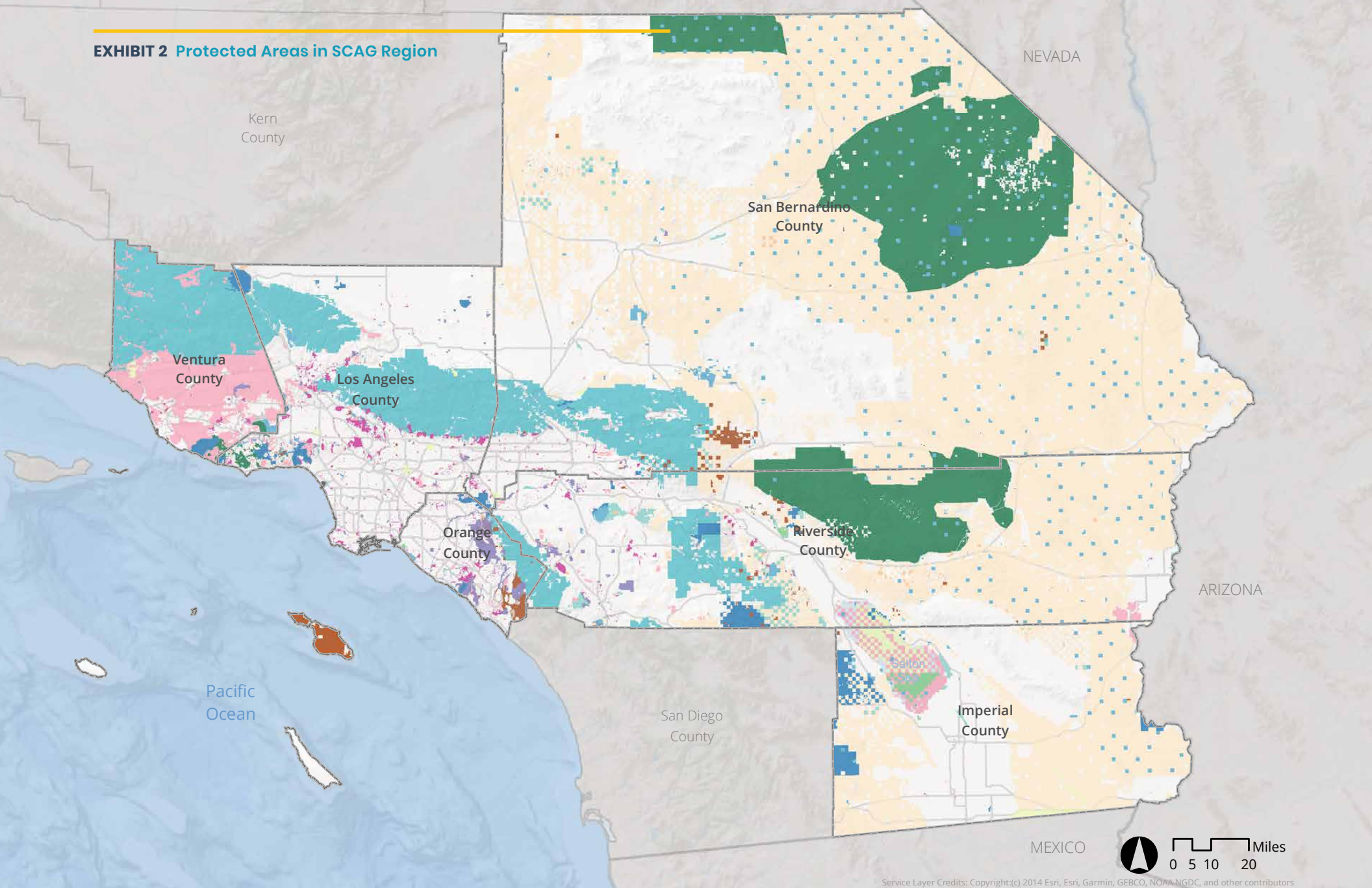
Like natural habitat lands, farm and grazing lands are at risk. According to the California Department of Conservation's most recent data, the SCAG region lost 21 percent of its farm land between 1984 (the year the farmland tracking began) and 2016. Major losses were seen in Los Angeles, San Bernardino, and Orange counties, which respectively lost 55, 71 and 78 percent of their farm land (**TABLE 6**). This decline of agricultural land has implications for the economy and the environment, especially in the context of climate change. While many farming practices contribute to greenhouse gas emissions, emissions from farmlands are far less than those from urban environments. Furthermore, when sustainably maintained, preserving rather than developing arable lands and pastures ensures carbon sequestration, in which carbon is absorbed by the soil instead of concentrating in the atmosphere. Farm and grazing lands can also provide such co-benefits as wildlife habitats, flood control and groundwater recharge. Please see **EXHIBIT 3** for a map of current existing farm lands in the SCAG region.

TABLE 6 Farmland Loss by County in Acres: 1984–2016

County	1984	2016	Percent Change
Imperial County	562,132	528,471	-6%
Los Angeles County	60,877	27,390	-55%
Orange County	26,535	5,715	-78%
Riverside County	561,542	419,835	-25%
San Bernardino County	69,575	20,293	-71%
Ventura County	132,388	118,508	-10%
SCAG Region	1,413,049	1,120,212	-21%

Source: California Department of Conservation Farmland Mapping & Monitoring Program

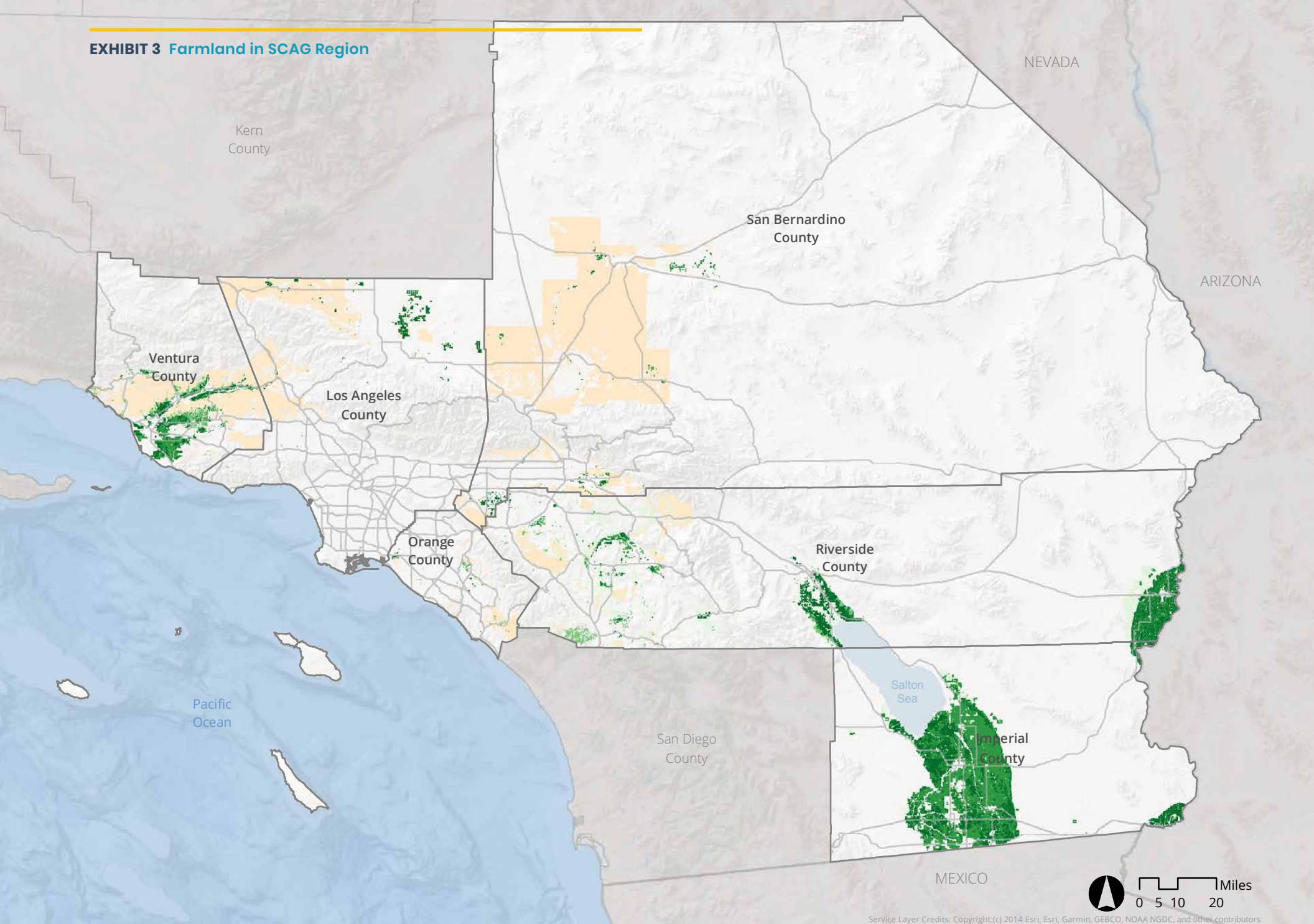
EXHIBIT 2 Protected Areas in SCAG Region



- | | | | | |
|------------------------------|------------------------------|---|------------------|-------------------------------|
| US Forest Service | US Fish and Wildlife Service | California Department of Parks and Recreation | County | Non Governmental Organization |
| US Bureau of Land Management | US Military/Defense | California Department of Fish and Wildlife | City | Private |
| National Park Service | Other Federal | Other State | Special District | Conservation Easement |

Source: SCAG, California Protected Areas Database, 2017; California Conservation Easement Database, 2016

EXHIBIT 3 Farmland in SCAG Region



■ Prime Farmland ■ Farmland of Statewide Importance ■ Unique Farmland ■ Farmland of Local Importance ■ Grazing Land

Source: SCAG, California Department of Conservation, 2019

Service Layer Credits: Copyright:(c) 2014 Esri, Esri, Garmin, GEBCO, NOAA NGDC, and other contributors

CONSERVATION POLICIES AND PROGRAMS IN THE SCAG REGION

In acknowledgement of this need for conservation and to address climate change's impacts, local and regional agencies throughout the SCAG region have worked to establish and/or implement a variety of policies, projects and plans to protect threatened natural and farm lands. This section provides an updated overview of such projects taking place throughout the region.

AGRIHOODS

Agrihoods are residential neighborhoods built with a focus on a working farm or community garden. In Orange County, Rancho Mission Viejo, the Sendero and Esencia neighborhoods with a combined 3,411 residences were developed on the agrihood model surrounding Rancho Mission Viejo. In Palm Springs, Miralon is a planned development exceeding 300 acres to be centered on an olive tree grove that will replace an abandoned, 18-hole golf course.

LOS ANGELES COUNTY SIGNIFICANT ECOLOGICAL AREAS (SEAS)

The Hillside Management and Significant Ecological Areas Ordinance (or SEAs) was originally adopted in 1982 and most recently amended in 2019. Significant Ecological Areas in Los Angeles County are designated as such due to their biological resources. These areas include undisturbed (or lightly disturbed) habitat of threatened or valuable species, or areas that support species movement, and are appropriately sized to support sustainable populations of the local species. The program is designed to conserve the diversity of biological resources in Los Angeles County through conservation and more stringent development rules. The SEA Ordinance outlines the review process and development standards for these areas to ensure biodiversity and ecosystems will not be negatively impacted by development. There are 21 SEAs in Los Angeles County per the 2035 General Plan published in 2015 (**EXHIBIT 4**).

LIBERTY CANYON WILDLIFE CROSSING

Habitat fragmentation from freeways and other infrastructure has posed a major threat to Southern California's wildlife, preventing animals from migration necessary to find food and reproduce. To address this, public agencies are taking steps to develop wildlife crossings. The Liberty Canyon Wildlife Crossing is proposed for the 101 Freeway in the City of Agoura Hills, and will be the first of its kind in California. Managed by California Department of Transportation (Caltrans), the project is a regional partnership with many public and private entities, including the City of Agoura Hills, City of Thousand Oaks, Mountains Recreation and Conservation Authority, the Santa Monica Mountains Conservancy, the National Park Service, and the Resource Conservation District of the Santa Monica Mountains.

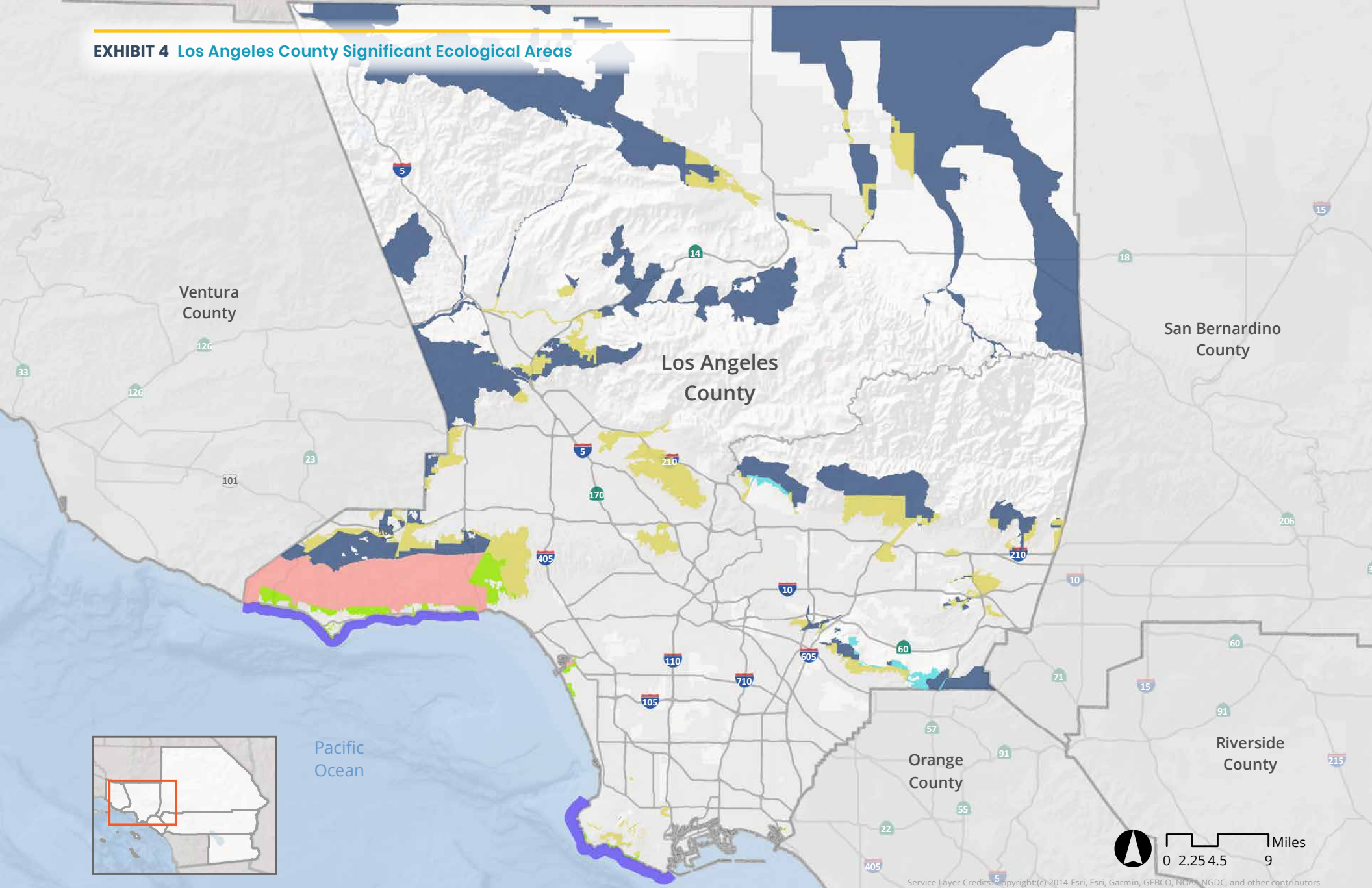
ORANGE COUNTY TRANSPORTATION ASSOCIATION MEASURE M2

Also known as "OC Go," Measure M2 is a voter-approved sales tax extension of Measure M, which was approved in 1990. This program is the funding source for county transportation projects as well as the Freeway Environmental Mitigation Program in Orange County. The Freeway Environmental Mitigation Program funds natural lands acquisitions and in turn, qualifying transportation projects undergo a streamlined California Environmental Quality Act (CEQA) review process. Thirty million dollars for approximately 1,300 acres of land and \$10 million on 350 acres of habitat restoration have been funded through Measure M2.

REGIONAL CONSERVATION PLANS

Local agencies throughout the region have worked together to form Regional Conservation Plans (RCPs). These plans recognize that important habitats do not routinely line up with jurisdictional borders, so designation of conservation lands can span multiple jurisdictions. Additionally, RCPs efficiently address mitigation mandates from the California Environmental Quality Act (CEQA) by anticipating transportation projects and "banking" potentially threatened endangered-species habitats.

EXHIBIT 4 Los Angeles County Significant Ecological Areas



SEA (Significant Ecological Area) Type

- Coastal Resource Area
- Coastal Resource Area (Ocean)
- Significant Ecological Area
- Coastal Resource Area (Incorporated City)
- Conceptual SEA
- Significant Ecological Area (Incorporated City)

Source: County of Los Angeles Department of Regional Planning, 2019

Currently, there are five adopted major conservation plans made up of multiple jurisdictions within SCAG's boundaries (**EXHIBIT 5**). Coachella Valley and Western Riverside have Multiple Species Habitat Plans (MSHCPs) which allow the county, its cities and special districts to more effectively make local land use decisions regarding development, while adhering to state and federal endangered species acts regulations and environmental mandates. Under an MSHCP, wildlife agencies grant authorization for public and private development that is potentially detrimental to individual species, in return for assembling and managing a coordinated Conservation Area. Similar to the MSHCP, Natural Communities Conservation Plan/Habitat Conservation Plans (NCCP/HCP) acquire and manage large conservation areas that can be made up of several distinct jurisdictions. An NCCP/HCP takes a broad-based ecosystem approach, focusing on the long term protection of wildlife and plant species while also allowing for development.

The following RCPs have been formally approved and are in implementation:

Coachella Valley MSHCP

This plan aims to preserve 240,000 acres of natural habitat and 27 plant and animal species in the Coachella Valley region of Riverside County. Since receiving its state and federal permits in 2008, about one third of the land (80,000 acres) has been acquired. A major amendment is that includes the entire City of Desert Hot Springs was approved in August 2016.

OCTA Measure M2 NCCP/HCP

Approved in 2017, this plan protects threatened plant and wildlife species and covers routine maintenance for preserve areas. It is funded by OCTA's Measure M2 Environmental Freeway Mitigation Program. An extension of Measure M (1990), Measure M2 is a voter-approved half-cent sales tax increase to fund transportation improvements. Over thirty years, the Environmental Mitigation Program will allocate about \$300 million to acquire natural lands and fund habitat restoration projects, while enabling a more streamlined approval process for freeway improvement projects. Since the initial funding round in 2010, 1,300 acres of natural lands have been acquired and eleven restoration projects have been funded. The total land in the planning area is 510,000 acres.

Orange County Central-Coastal NCCP/HCP

Approved in 1996, this plan was one of the first regional HCPs in the country. The planning area covers 208,000 acres, protecting habitats for 39 species, six of which are federally listed endangered species. Participating organizations include seven cities, the County of Orange, Irvine Company, Metropolitan Water District, the Transportation Corridor Agency and UC Irvine.

Western Riverside MSHCP

Half a million acres of land are designated for conservation under this plan. When the MSHCP was enacted in 2008, nearly 70 percent of the land already had public or quasi-public status. Since then, the Regional Conservation Authority (RCA), the plan's facilitating agency, has been active in acquiring the remaining 153,000 acres. To date, 27 percent of the total land has been acquired.

The following RCPs are in the planning phase. While not yet formally approved, conservation and restoration efforts for most of them are well underway.

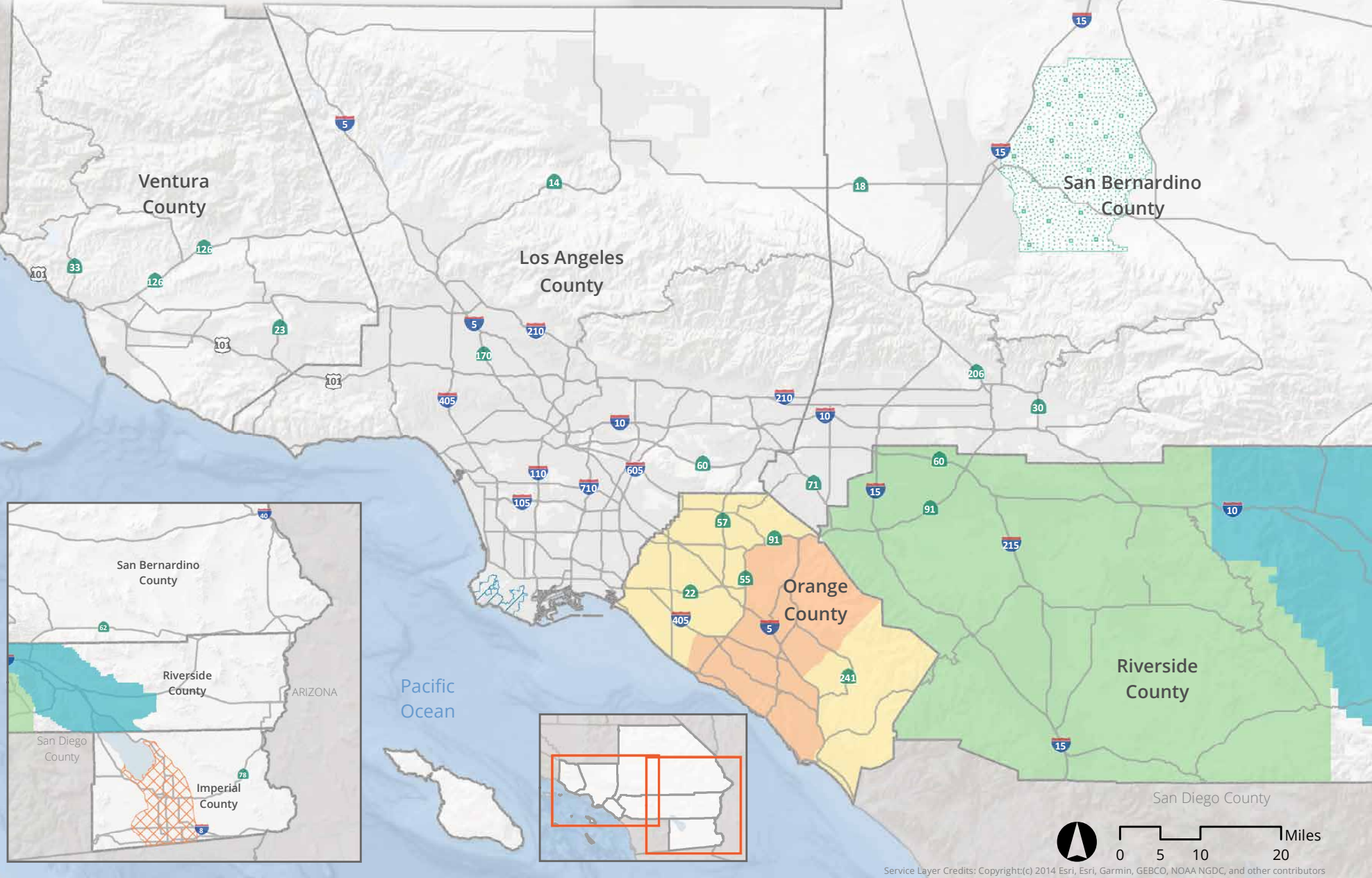
City of Rancho Palos Verdes NCCP/HCP

At 8,661 acres, this is the smallest regional conservation plan in the SCAG region. Despite its size, the planning area for the Rancho Palos Verdes NCCP/HCP has some of the richest biodiversity in the region. One of the protected species is the Palos Verdes Blue Butterfly, whose population is slowly rebounding after near-extinction in the 1980s.

Imperial Irrigation District NCCP/HCP

Covering about 500,000 acres in Imperial County, this plan is anticipated to protect nearly 100 fish, wildlife and plant species for the next 75 years. The planning area includes the Salton Sea, which has become a refuge for birds and other wildlife species that live in the marsh-like habitat.

EXHIBIT 5 Regional Conservation Plans in SCAG Region



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- | | | |
|------------------------------|--|--|
| Regional Conservation Plans | Town of Apple Valley Multi-Species Conservation Plan | County of Orange Central/Coastal Subregion |
| Imperial Irrigation District | Implemented Regional Conservation Plans | Orange County Transportation Authority |
| City of Rancho Palos Verdes | Coachella Valley Multiple Species | Western Riverside County Multiple Species |

Source: California Department of Fish and Wildlife, 2019

Town of Apple Valley MSHCP/NCCP

Like the Rancho Palos Verdes NCCP/HCP, the Apple Valley MSHCP is currently made of only one jurisdiction, and the planning area includes a considerable amount of biodiversity. The plan will cover 227,000 acres, protecting the habitats of seven endangered species and 26 sensitive species.

San Bernardino County Regional Conservation Investment Strategy (RCIS)

Established in 2016 by Assembly Bill 2087, Regional Conservation Investment Strategies are voluntary, non-regulatory, regional planning processes for higher-quality conservation outcomes and pathways for advance mitigation. Several agencies in San Bernardino County, including the County of San Bernardino, San Bernardino Council of Governments, and the Environment Element stakeholder group, in collaboration with SCAG, are developing the RCIS based on a set of biological and planning principles that arose from the Countywide Vision planning process. The Draft Plan was released in December 2018 and is being revised per discussions with the California Department of Fish and Wildlife.

VENTURA COUNTY HABITAT CONNECTIVITY AND WILDLIFE CORRIDOR ORDINANCE

Formally adopted in May 2019, this ordinance establishes regulations for development on lands where animals travel between the Santa Monica Mountains National Recreation Area and the Los Padres National Forest. The ordinance includes restrictions on elements detrimental to species movement, such as fencing, certain types of lighting and development in riparian areas. To provide flexibility for compliance, exemptions were implemented for agricultural activities.

VENTURA COUNTY SAVE OPEN SPACE AND AGRICULTURAL RESOURCES (SOAR)

SOAR is a collection of voter initiatives to create City Urban Restriction Boundaries (CURB) in eight of the county's cities (EXHIBIT 6). With these initiatives, re-zoning natural or agricultural lands for development outside of

a city's sphere of influence requires a majority vote approval from residents. In 2016, voters approved all of the initiatives for renewal, which extends the expiration date until 2050.

LAND CONSERVATION ACT (LCA)

Also known as the "Williamson Act," the Land Conservation Act is a voluntary land conservation program adopted by the California Legislature in 1965. The LCA incentivizes farm land conservation by providing lower tax rates to landowners who restrict their land to agricultural or open space uses for a minimum of 10 years. Participating SCAG counties include Los Angeles, Orange, Riverside, San Bernardino and Ventura.

OPPORTUNITIES

There are several state-led grant programs designed to support local agencies in their conservation efforts. SCAG encourages member jurisdictions to pursue these opportunities to enhance local conservation.

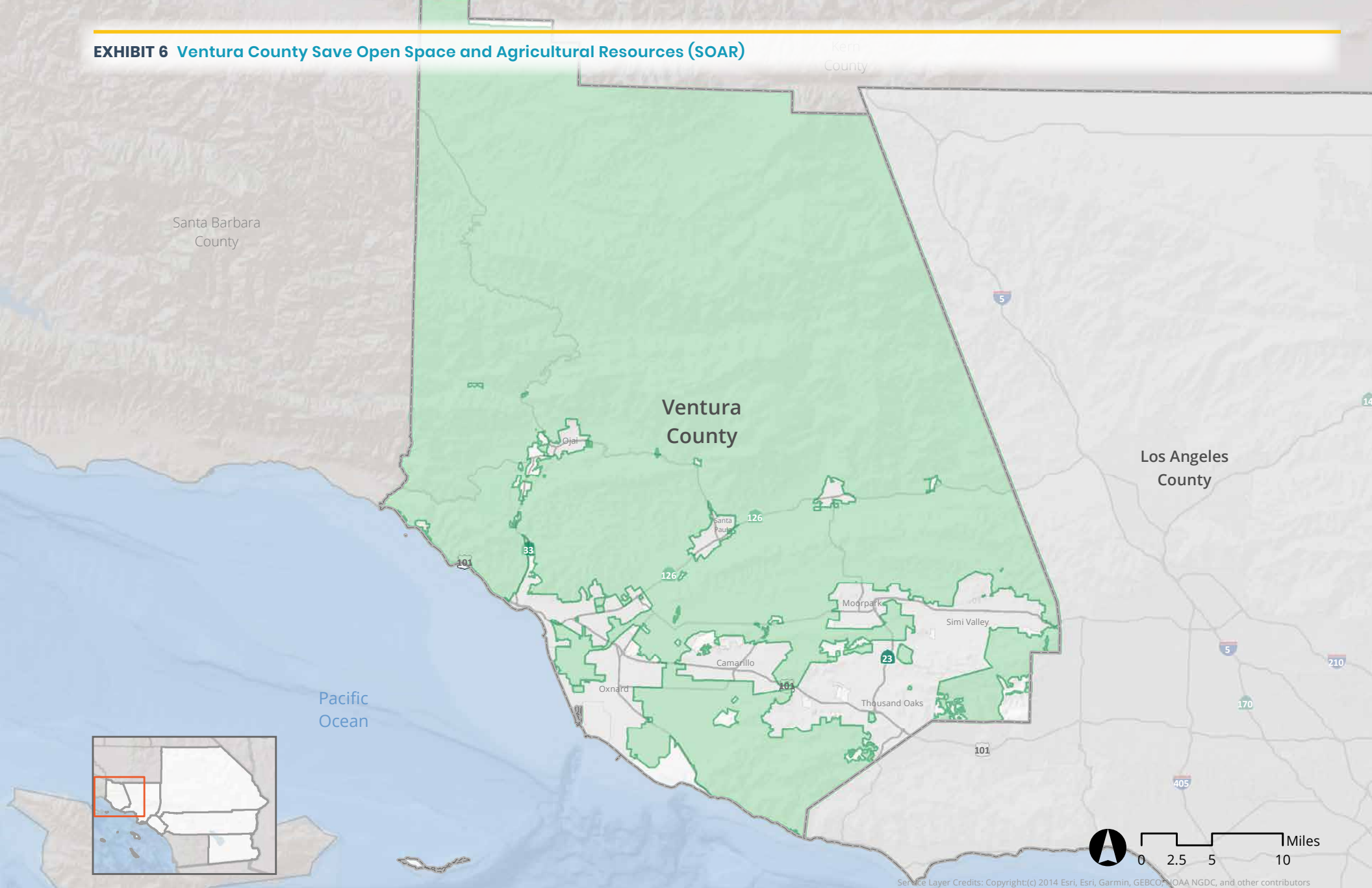
GREENHOUSE GAS REDUCTION FUND (GGRF) RESOURCES

Proceeds from the State's Cap-and-Trade Program are directed towards the Greenhouse Gas Reduction Fund. This fund supports several climate investment programs to conserve, enhance and restore natural and farm lands including:

Climate Adaptation and Resiliency Program

This program directs funding toward projects that protect and restore ecosystems on natural and working lands to provide climate change adaptation and resilience for wildlife; assist natural and working lands managers in implementing practices that provide climate adaptation and resilience; facilitate the reduction of greenhouse gas emissions; increase carbon sequestration in natural and working lands; and provide additional social, economic, and environmental benefits, or "co-benefits."

EXHIBIT 6 Ventura County Save Open Space and Agricultural Resources (SOAR)



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Ventura County SOAR Area

 SOAR (Save Our Open Space) Boundary

Source: County of Ventura, 2019

Climate Ready Program

Administered by the Coastal Conservancy, this program supports natural lands and urban communities along California's coast adapt to the impacts of climate change. Funding goes towards projects dedicated to sea level rise adaptation planning, natural infrastructure, rangeland and agricultural adaptation, carbon sequestration and urban greening.

Forest Health Grants

Administered by California Department of Forestry and Fire Protection (CAL FIRE), this program funds projects that focus on reforestation, fuel reduction and prescribed fire, pest management, biomass utilization, conservation easements and research.

Healthy Soils

This program provides incentives to farmers and ranchers to engage in management practices that build soil carbon and reduce agricultural greenhouse gas emissions.

Sustainable Agriculture Land Conservation (SALC)

This program helps cities and counties acquire conservation easements to prevent agricultural lands from being converted to more greenhouse gas intensive land uses, specifically by protecting at-risk agricultural lands from conversion to urban or rural residential development. This program is a component of the Affordable Housing and Sustainable Communities Program.

Urban & Community Forestry

This program provides grants for community organizations and local governments for urban tree planting, urban forest management, and for the utilization of urban forest waste wood for wood products and bioenergy.

Urban Greening

This program supports projects that enhance and expand neighborhood parks; mitigate urban heat islands; establish green streets and alleyways; and develop non-motorized urban trails that provide safe routes for travel between residences, workplaces, commercial centers, and schools.

Wetlands & Watershed Restoration

This program funds projects that provide carbon sequestration benefits, including restoration of wetlands, coastal watersheds and mountain meadows. In addition to furthering climate goals, these types of projects are integral to developing a more sustainable water management system statewide.

Wildfire Response and Readiness

Provides local assistance grants to fire departments within High Hazard Severity Zones to support activities directly related to the reductions of greenhouse gas emissions from uncontrolled wildfires and regional response and readiness.

Working Lands and Riparian Corridors Program

Funded by 2018's Prop 68 and administered by the California Department of Conservation, this program supports the integration of natural and working lands, specifically agricultural lands, into local and regional plans such as climate action plans, sustainable community strategies, general plans, or specific plans. Funding can also be used to adopt TerraCount, which is a scenario planning tool developed by the Department of Conservation and the Nature Conservancy for use by cities, counties, districts and other land use planners and decision-makers to evaluate the greenhouse gas impacts of land-use plans.

RECOMMENDED POLICIES

In the 2012 RTP/SCS, SCAG outlined suggested steps towards developing an Open Space Conservation Plan to mitigate planned activities. Since then, SCAG, in coordination with regional partners, has taken key actions to make progress on those suggested steps. For the 2016 RTP/SCS the Natural and Farm Lands Conservation Working Group worked with SCAG to develop policies that cover a variety of approaches to conserving natural and farm lands.⁴ SCAG has taken and will continue to take active steps in implementing the following policies through Connect SoCal:

Promote Best Practices

Support innovative land conservation tools that facilitate the exchange of information related to best practices amongst local governments, resource agencies, non-governmental agencies and other stakeholders in and outside of the SCAG region.

Facilitate Partnerships and Collaboration

Encourage, cultivate, and facilitate partnerships and collaboration on natural/farm lands policies and programs between public, educational and non-profit agencies throughout the SCAG region.

Encourage Regional Conservation Planning

Seek and expand engagement with resource and permitting agencies, County Transportation Commissions, Caltrans, California High Speed Rail Authority and other partners on regional advance mitigation and integrated regional conservation planning.

⁴ Participants in the Working Group included San Bernardino Association of Governments, LA Metro, Los Angeles County Department of Regional Planning, Friends of Harbors Beaches and Parks, Orange County Transportation Authority, City of Mission Viejo, City of Irvine, The Nature Conservancy, Building Industry Association, The Trust for Public Land, Town of Apple Valley, Endangered Habitats League, Amigos de Los Rios, and the Riverside County Transportation.

Expand Data Sharing

Continue to gather spatial and other data to better inform regional policies regarding natural/farm lands, such as the 2014 data gathering efforts to provide coarse and fine scale habitat assessment data for the SCAG region. Coordinate and improve the Intergovernmental Review Process to provide or obtain enhanced data regarding mitigation opportunities.

Support Innovative Land Use Policies

Recognize the region's growth potential and its inherent connection between the conservation of existing natural/farm lands and strategies to promote infill, such as transfer of development rights and land banking, which relieve pressure to expand the urban footprint. Additionally, continue efforts to work toward identifying priority conservation areas, including habitat and farm land areas, to permanently protect as part of future regional plans.

Improve Natural Corridor Connectivity

Encourage and facilitate research, programs and policies to identify, protect and restore natural habitat corridors, especially where corridors cross county boundaries. Additionally, continue support for preserving wildlife corridors and wildlife crossings to minimize the impact of transportation projects on wildlife species and habitat fragmentation.

Encourage Urban Greening/Green Infrastructure

Support planning and implementation efforts that improve the relationship between the urban built environment and the urban natural environment, such as urban forestry, urban greenways and trail systems, watershed management and expansion of green infrastructure systems.

Connect to Public Health

Recognize and encourage policy development of the link between natural/farm lands conservation with opportunities to improve public health such as recreational access and active transportation investment.

Include Climate Smart Conservation

Support the purposeful consideration of climate change in natural/farm lands management including linking actions to key climate impacts and vulnerabilities. Encourage and seek opportunities to quantify baseline greenhouse gas emissions and emissions reductions related to enhanced regional conservation efforts, especially modeling tools and Cap-and-Trade funding.

Seek Funding Opportunities

Actively seek funding opportunities for SCAG, member jurisdictions and potential partners for programs that facilitate the conservation and restoration of natural/farm lands, including pilot program opportunities.

NEXT STEPS

The 2012 RTP/SCS established a commitment to developing a regional conservation strategy, and the 2016 RTP/SCS outlined specific strategies and policies to work towards this goal and guide other conservation activities throughout the region. Building on this effort has the potential to create a regional conservation program that cities, County Transportation Commissions (CTCs), non-profits and other agencies can align with and support. This strategic and comprehensive approach allows for regional growth, while at the same time ensuring that important natural and working lands as well as water resources are protected in perpetuity. The following next steps are suggested for further development of a regional conservation strategy:

Continue to Engage Stakeholders

Continue hosting SCAG's Natural and Farmlands Conservation Working Group to provide input and guide conservation implementation activities. Expand and deepen relationships with experts in conservation policy and science to advance informed strategies.

Develop Regional Greenprint

SCAG is developing a Regional Greenprint, which is a strategic web-based conservation tool that provides the best available scientific data and scenario visualizations to help cities, counties and transportation agencies make better land use and transportation infrastructure decisions and conserve natural and farm lands. Specifically, the Regional Greenprint will serve as an online mapping platform illuminating the multiple benefits of natural and agricultural lands through data related to key topics such as habitat connectivity, biodiversity, clean water, agriculture, and greenhouse gas sequestration.

Encourage Advance Mitigation Programs

SCAG will continue to collaborate with regional stakeholders to promote the conservation of natural and agricultural lands and restoration of habitats. Connect SoCal includes a new Regional Advance Mitigation Program (RAMP) initiative that will establish and/or supplement regional conservation and mitigation banks and/or programs to address impacts for projects that support reduction of per-capita VMT. The initiative will also support long-term management and stewardship of mitigated properties.

Align with Funding Opportunities and Pilot Programs

SCAG aims to help local agencies seek planning funds, such as Cap-and-Trade auction proceeds that could help prepare for local action on acquisition and restoration.

Provide Incentives for Jurisdictions to Work across County Lines

Important habitat corridors often do not align neatly with jurisdictional boundaries. SCAG will work with stakeholders to identify incentives and leverage sustainability resources that help protect habitat corridors, especially across county boundaries.

CONCLUSION

With local support, SCAG policies and strategies outlined in Connect SoCal and in this Report will help to protect natural and farm lands and reshape future land consumption. This regional plan includes a strategy that promotes a more compact growth pattern that will return many benefits, such as savings in water and energy, conservation of habitat lands, support for agriculture as both a key industry and a cornerstone of the region’s economic history, more sustainable transportation investments, diversified housing options, and an urban form that supports a competitive economy. By committing to the strategies and recommendations in this report in the context of the other key Connect SoCal strategies, the SCAG region can anticipate the fruition of a better region for our residents, our ecosystems and our economy.



MAIN OFFICE

900 Wilshire Blvd., Ste. 1700
Los Angeles, CA 90017
Tel: (213) 236-1800

REGIONAL OFFICES

IMPERIAL COUNTY

1405 North Imperial Ave., Ste. 104
El Centro, CA 92243
Tel: (760) 353-7800

ORANGE COUNTY

OCTA Building
600 South Main St., Ste. 741
Orange, CA 92868
Tel: (714) 542-3687

RIVERSIDE COUNTY

3403 10th St., Ste. 805
Riverside, CA 92501
Tel: (951) 784-1513

SAN BERNARDINO COUNTY

Santa Fe Depot
1170 West 3rd St., Ste. 140
San Bernardino, CA 92410
Tel: (909) 806-3556

VENTURA COUNTY

4001 Mission Oaks Blvd., Ste. L
Camarillo, CA 92418
Tel: (805) 642-2800



TECHNICAL REPORT

NATURAL AND FARM LANDS CONSERVATION
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