# THE CONSERVATION LANDS NETWORK 2.0 Progress Report



## **TABLE OF CONTENTS**

LAND ACKNOWLEDGEMENT	3
AN INVITATION	4
EXECUTIVE SUMMARY	6
THE CONSERVATION LANDS NETWORK	8
CONSERVATION LANDS NETWORK	12
PROGRESS REPORT	16
INTERCONNECTIONS	37
ACHIEVING 50X50	41
LOOKING AHEAD	45
CONCLUSION	47
ACKNOWLEDGEMENTS	48
GLOSSARY	49

#### This document should be cited as follows:

TOGETHER Bay Area. 2024. The Conservation Lands Network 2.0 Progress Report. Berkeley, CA.

This report, the original Conservation Lands Network 1.0 and 2.0 Reports, related datasets, and related tools are available online at <u>www.bayarealands.org</u>.

TOGETHER Bay Area is a coalition working for climate resilience and equity. Our member organizations collaborate across our 10-county region for a just and equitable society where we live in relationship with the land that sustains us now and will sustain future generations.

1442A Walnut Street, #421, Berkeley, CA 94709

www.TogetherBayArea.org

Cover photo credit: Andrea Laue



## LAND ACKNOWLEDGEMENT

Every inch of land is Indigenous land.

For more than 10,000 years, Native Americans have lived in harmony with these lands that are now known as the San Francisco Bay Area. We recognize the impact that the arrival of and colonization by the Spanish, Mexicans, and Americans have had on the lands and the Native peoples. We respect the Native peoples living here today, their ancestors both past and future, and their connection to the land. And we are honored to be in relationship with local Native American Tribes and Native-led organizations to go beyond land acknowledgements for healthy lands and communities.

Learn about what TOGETHER Bay Area is doing at <u>www.togetherbayarea.org</u>.



## **AN INVITATION**

Dear Reader,

We feel hopeful. We see a San Francisco Bay Area in the not so distant future that is home to healthy lands, people, and communities where we address the impacts of the climate and biodiversity crises through collaboration. And we invite you to join us in that hope.

The pervasive narrative about the climate is often one of hopelessness. The climate crisis is fueling catastrophic wildfires, raising sea levels, and causing extreme weather events. The biodiversity crisis, also called the Sixth Extinction, is blinking out a scary number of species around the planet. Social inequities and environmental injustices are preventing our fellow human beings from living safe and healthy lives.

Yet, there are many reasons for hope. One reason is the hundreds of programs and projects led by local organizations which benefit the land and people. From stewarding healthy forests to restoring tidal marshes and engaging volunteers in planting trees, there's a tremendous amount of thoughtful conservation action happening today. Another reason for hope is the culture of collaboration in the Bay Area. This 10-county region is home to a thriving network of environmental professionals and conservation practitioners who are actively coordinating for the health of the land and our communities. Working as a region is how the Bay Area conservation community works. One example of this regional coordination is a project called the Conservation Lands Network (CLN). The CLN is a regional strategy that sets goals, tracks progress, provides tools, and catalyzes on-the-ground land conservation in the Bay Area. Not only has the Bay Area land conservation community created the CLN, but we continue to update it—to monitor our progress towards the goals we set, and to update those goals to meet the evolving needs of biodiversity, the land, the people who steward it. The CLN continually evolves to meet the needs of local implementers, and the challenges of our changing world.

In your hands you have the CLN 2.0 Progress Report, which measures progress on the five regional goals since the CLN community set them in 2019. This report reflects the work of local conservation organizations who have worked tirelessly to conserve new lands. It contains scientific analysis and interconnections to state goals and regional planning processes.

This Progress Report contains hope because:

We are making progress. More than 130,000 acres have been conserved over the past five years, bringing us closer to our regional goal of conserving 50% of the Bay Area's lands by 2050. And those acres include important and essential habitats for native animals like Coho salmon, Alameda whipsnake, and Golden Eagles. This progress means enhanced resilience to the impacts of climate change and reduced risk of losing species to extinction.

We are collaborating. Around 150 people contributed their expertise and time to create CLN 2.0 and the goals against which we're measuring progress. Dozens of organizations, dozens of funding agencies and foundations, hundreds of researchers, and thousands of practitioners are collaborating on a daily basis to conserve and steward the region's lands. And through collaboration we will achieve much more, with more durability, than what we could do alone.

And we aren't stopping anytime soon. Starting in 2025, we will convene over 300 practitioners and experts to assess the health of the region's habitats, set new goals for land conservation, and evolve the CLN project to meet today's challenges and opportunities. The outcome will be clear goals and metrics, and a large and diverse community of professionals and practitioners mobilized to reach those goals.

We invite you to join us. There's a lot to be hopeful about.

Ne

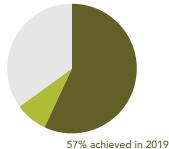
Annie Burke Executive Director

**Tom Robinson** Director of Conservation Strategy



## **EXECUTIVE SUMMARY**

Working Toward 50x50



65% achieved in 2019

The CLN 2.0 Progress Report presents an overview of progress made by the San Francisco Bay Area conservation community towards the Conservation Lands Network's (CLN) regional conservation goals set in 2019. The CLN supports an ambitious goal to conserve 50% of the Bay Area's lands by 2050, focusing on protecting biodiversity and enhancing climate resilience. Over the past five years, 132,230 acres of priority lands have been conserved, bringing the region closer to its 50x50 goal. These efforts have safeguarded critical habitats, secured vital wildlife corridors, and contributed to climate resilience.

This report highlights that collaboration has been central to this progress, with over 150 people and numerous organizations involved in shaping CLN 2.0. Together, they have advanced conservation goals, supported scientific analysis, and ensured alignment with state and regional planning processes. Additionally, the CLN's tools, such as the online Explorer and GIS datasets, have facilitated strategic land conservation across the region's nearly five million acres.

This report shares not only the successes of the last five years' regional conservation efforts, but also points us toward the specific areas we need to focus our conservation efforts on for the coming years.

As we measure our progress and determine the areas that continue to require our focus, we also acknowledge that the landscape of conservation practice has changed over the past five years. Since 2019, we have lived through the Covid pandemic, and wildfires have affected tens of thousands of acres of land in the Bay Area. We've also seen growth in how our organizations and institutions approach conservation, from the launch of the state's 30x30 initiative to the creation of new or reorganized local organizations. All of these developments call for an assessment of our progress and an update to the Conservation Lands Network.

An important feature of the CLN is its dual role in conservation strategy. It not only maps lands to prioritize for conservation but also, through its adoption as a planning tool, directs funding to the areas that need it most. In our rapidly changing world, it's crucial to regularly assess progress and update our strategies: Our current practice of reviewing the CLN every five years ensures that this collective tool remains effective, supporting both the conservation efforts needed today and the funding required to implement them.

Between 2025 and 2028, the CLN will convene over 300 conservation practitioners and experts to pore over new vegetation maps, assess habitat health, and set new goals. This next phase, CLN 3.0, will focus on refining conservation targets, enhancing regional coordination, and engaging a broader community of professionals. Urban biodiversity, wildfire resilience, and stewardship will be key areas of focus. By incorporating diverse voices, including local Indigenous groups, the CLN aims to create a more equitable and inclusive conservation framework.

Overall, the progress measured in this report is a testament to the power of collaboration and science-based conservation planning in the face of climate and biodiversity crises. When the conservation community has clear, shared goals and the tools to measure progress toward them, we're motivated to reach them. As the Bay Area continues its efforts to conserve critical ecosystems, the CLN's strategic approach will remain essential to protecting the region's unique biodiversity and ensuring resilience for future generations.



## THE CONSERVATION LANDS NETWORK

The Conservation Lands Network (CLN) is a regional strategy that sets goals, tracks progress, provides tools, and catalyzes on-the-ground land conservation in the San Francisco Bay Area. The CLN articulates two types of science-based and community-driven goals: a set of five overarching regional conservation goals and a much larger set of habitat-specific goals. To facilitate the conservation community's ability to achieve the goals, the CLN project provides and regularly updates online tools that support strategic investments in land protection and stewardship. These tools aim to focus conservation in areas that represent the region's biodiversity and support ecological function across the nearly 5 million acres that comprise the 10 Bay Area counties (Marin, Sonoma, Napa, Solano, Contra Costa, Alameda, Santa Clara, Santa Cruz, San Mateo, and San Francisco).

Launched in 2006 by the Bay Area Open Space Council, the CLN project is currently facilitated by TOGETHER Bay Area and driven by the large and diverse CLN community of practitioners, scientists, researchers, consultants, and experts. Members of the CLN community contribute to the project by serving on the Steering Committee, sharing expertise in taxonomic focus teams, providing thought leadership on topical focus teams, providing peer reviews of the CLN's use of science, and providing feedback on its tools. All of this is done on a voluntary basis and clearly demonstrates the broader conservation community's commitment to regional coordination. In addition to the active CLN community, there are hundreds of CLN users who download reports from the CLN Explorer, access the GIS database, integrate the CLN into their planning processes, incorporate the CLN into their articles and papers, and reference the CLN in grant applications. The first version of the CLN, a ground-breaking effort for a region of the Bay Area's size and complexity, was released in 2011. The people who contributed to CLN 1.0 created a culture of strategic conservation planning in the Bay Area, and this sparked the creation of county-level conservation plans in Napa and Santa Cruz counties. Three years later, in 2014, a Progress Report was released to help the region track its progress towards the habitat goals set in 2011. The CLN 1.0 Progress Report laid out new ways to evaluate conservation actions at a regional level, focusing on people and the vital roles of land stewardship and public access. Then, in 2019, the CLN 2.0 was released, reflecting new and updated data and incorporating the importance of habitat connectivity for wildlife movement and climate resilience. It was in version 2.0 that the CLN community set the goal for conserving 50% of the Bay Area's 5 million acres by 2050, which will be discussed in this Progress Report.

There are two critical success factors to the CLN's longevity and effectiveness: the incorporation of the CLN into key funders' grantmaking and a culture of regional coordination. The California State Coastal Conservancy and Gordon and Betty Moore Foundation have required reports generated by the CLN's Explorer tool in grant applications. The reports provide information and analysis that put the specific projects into the regional context and help make the case for their conservation in light of regional goals. In addition, SCC and Moore Foundation staff have lent their expertise and provided valuable input to the CLN project.

The second critical success factor, a culture of regional coordination, has been essential to the CLN and countless other efforts. The CLN would not exist without the highly collaborative and dedicated community of professionals and practitioners who see regional coordination as part of their daily work. Since the early 1990s, the broader conservation community has gathered at an annual regional conference, collaborated for regional funding, participated in cross-jurisdictional projects, and so much more. This culture of collaboration is the soil from which the CLN grows.

#### **CLN Definition of Conserved Land**

Conserved lands, as defined in the Conservation Lands Network and the Bay Area Protected Areas Database (BPAD), are natural and working lands permanently protected by fee title ownership or conservation easement, which prevents conversion to uses incompatible with biodiversity conservation. Conserved lands can be parks, preserves, ranches, farms, forests; small or large; publicly accessible or not publicly accessible. Hundreds of public and private Bay Area agencies and organizations own and manage conserved lands as well as hold conservation easements. The lands may or may not be accessible for public recreation, but importantly are suitable for biodiversity conservation values because they have not been developed for other land uses.

#### **Conservation by Fee Title**

The purchase of all the rights associated with a property is a "fee title" acquisition, and allows the landowner to manage the property to preserve and protect its conservation values. (Definition from California Council of Land Trusts.)

#### **Conservation Easements**

A conservation easement is a legal agreement between a landowner and a land trust or government agency, and permanently protects a property's conservation values by limiting uses of the land. It allows landowners to continue to own and use their land, and sell it or pass it on to heirs. (Definition from Land Trust Alliance.)

#### About the CLN definition of conserved lands

The CLN uses a definition of conserved lands that serves the unique needs of the region. The definition we use needs to serve the context of the CLN's geographic reach, maintain the project's integrity and durability, and most effectively serve the CLN's users. Please note that it is common for different definitions of conserved lands to be used at different scales for different purposes. For example, any land that has been permanently conserved through fee title or conservation easement decreases the chance of habitat or ecosystem service degradation. This is important at the scale the CLN operates at and in an urban and urbanizing region such as the Bay Area. By comparison, the definition of conserved land for California's goal to conserve 30% of lands and coastal waters by 2030 was developed to support the initiative's state-wide scope and scale, and thus it uses a higher threshold for "conserved."

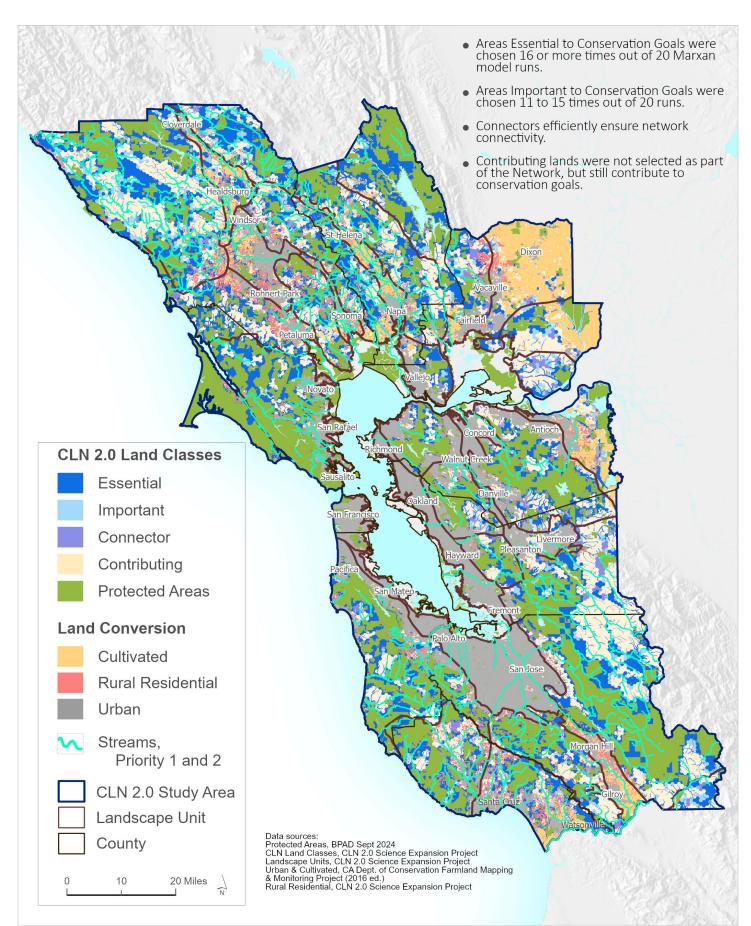
#### A note about GAP Codes and land management

The CLN does not use GAP codes in its definition of conserved land. Instead, all fee title and conservation easements held by conservation agencies and organizations are considered conserved and are counted toward the 50% by 2050 goal. However, conserved areas that are primarily cultivated agriculture or are Off-highway Vehicle (OHV) access areas are excluded in the computer modeling that creates the CLN's mapped network of Essential, Important, and Connector lands because the lands are not being primarily managed to maximize ecosystem health.

Since 2006, the CLN has constantly evolved to meet the moment in the global conservation movement, to reflect California's goals, to respond to regional opportunities and challenges, and to meet the needs of the on-the-ground conservation community in the Bay Area. Each iteration – from version 1.0 in 2011, version 2.0 in 2019, and the initiation of 3.0 in 2025 – incorporates the latest science, updated data, innovative tools, and a growing and increasingly diverse community of experts and users. Each iteration builds on the past and looks toward the future. In this way, the CLN reflects the living systems that it studies and aims to conserve and steward.

#### Figure 1. The Conservation Lands Network 2.0 Progress Basemap

While the network of the CLN was not updated, a revised CLN basemap was built from protected lands as of 2024.



## CONSERVATION LANDS NETWORK VERSION 2.0

After three years of active participation by the CLN community, the 2.0 version of the CLN was launched in 2019. Over 150 people contributed to the update. Important, new landscape features were added in the update, including stream valleys and headwaters. New "beyond biodiversity" elements were added to the downloadable CLN GIS Database and the online reporting tool (the Explorer), such as areas important for food production and a viewshed analysis that shows visibility of lands from city centers and major roads. The most significant advancement of the 2.0 version is the addition of five overarching regional conservation goals that complement the individual habitat- and species-based goals. The CLN 2.0 Steering Committee articulated five regional goals which are science-based and community-driven:

- 1. Conserve 2.5M acres of priority lands by the year 2050.
- 2. Conserve rare, diverse, and irreplaceable landscapes, and manage them for health and resilience.
- 3. Conserve core habitats and the lands that connect them, and manage them for permeability, health, and resilience.
- 4. Conserve a regional network of streams, wetlands, ponds, seeps and associated riparian and upland areas, and manage for health and resilience.
- 5. Steward all lands to maintain ecological and hydrological processes that support ecosystem function and resilience.

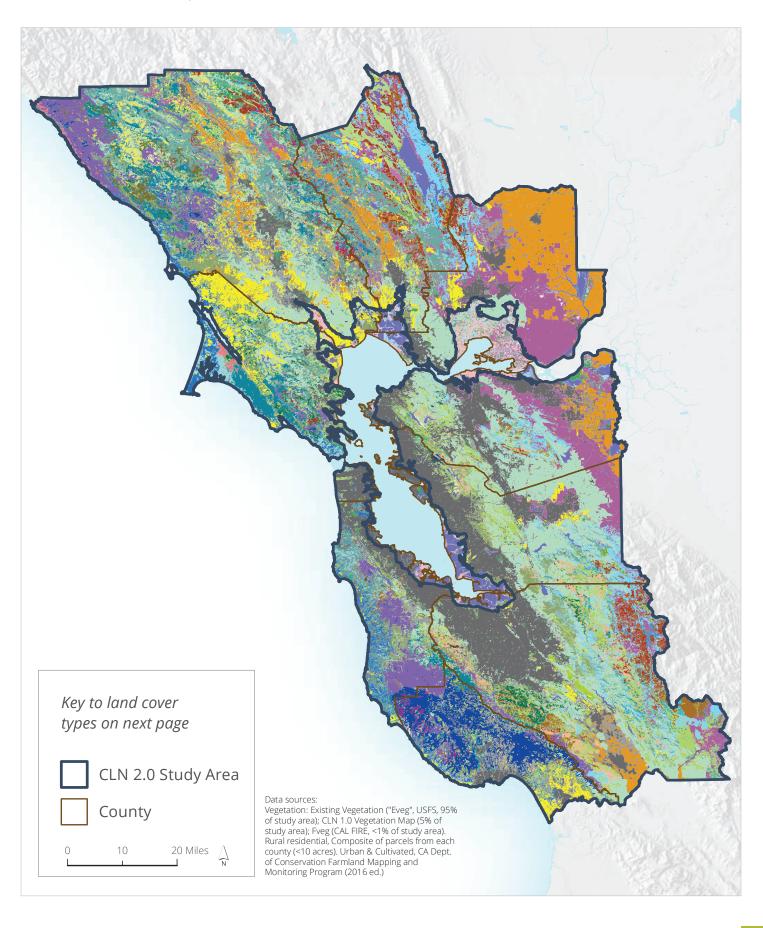
#### How are regional and habitat specific goals set?

The CLN project relies on vegetation maps (see Figure 2) and sets higher protection targets for rarer landscapes while incorporating narrower goals for specific species and habitats (see page 25 and Table 3). The vegetation maps are then assessed within the context of landscape units (see Figure 3) to determine quantifiable habitat goals, including explicit goals for riparian areas, ponds, and other aquatic habitats, while considering habitat connectivity to conserve core areas and corridors.

To address the climate impacts associated with the five goals, the CLN incorporates climate change adaptation by including areas with topographic and climatic diversity, and balances protection of existing high-quality habitat with restoration opportunities. Goals are set at both regional and local scales to ensure representation across the region, and the CLN team regularly reassesses and updates goals based on new data and conservation progress. This science-based, multi-scale approach aims to create a network of conserved lands that comprehensively represents the region's biodiversity.

Learn more about CLN 2.0 at www.BayAreaLands.org.

**Figure 2. Map of Land Cover Types** The 80 natural vegetation types were used for create the coarse-filter for CLN 2.0.



Agriculture (General)	High Water Line/Gravel/Sand Bar	
Alkaline Flats	Hot Grasslands	
Alkaline Mixed Grasses	Interior Live Oak	
Alkaline Mixed Scrub	Interior Mixed Hardwood	
Barren	Intermittent Lake or Pond	
Beach Sand	Knobcone Pine	
Bishop Pine	Lower Montane Mixed Chaparral	
Black Oak	Madrone	
Blue Oak	Manzanita Chaparral	
Blueblossom Ceanothus	McNab Cypress	
California Bay	Mixed Conifer - Pine	
California Buckeye	Moderate Grasslands	
California Juniper (shrub)	Montane Mixed Hardwood	
California Sagebrush	Monterey Cypress	
California Sycamore	Monterey Pine	
Canyon Live Oak	Non-Native/Ornamental Grass	
Ceanothus Mixed Chaparral	Non-Native/Ornamental Conifer	
Chamise	Non-Native/Ornamental Conifer/Hardwood	
Coast Live Oak	Non-Native/Ornamental Hardwood	
Coastal Bluff Scrub	Non-Native/Ornamental Shrub	
Coastal Mixed Hardwood	North Coast Mixed Shrub	
Coastal Prairie	Oregon White Oak	
Cool Grasslands	Pacific Douglas-Fir	
Coulter Pine	Perennial Grasses and Forbs	
Coyote Brush	Pickleweed - Cordgrass	
Cultivated	Playa	
Douglas-Fir - Ponderosa Pine	Ponderosa Pine	
Dune	Pygmy Cypress	
Eucalyptus	Red Alder	
Fremont Cottonwood	Redwood	
Grand Fir	Redwood - Douglas-Fir	
Gray Pine	Riparian Mixed Hardwood	



#### Figure 3. Map of 36 Landscape Units in Conservation Lands Network 2.0

Landscape units are geographic divisions of the Conservation Lands Network study area; developed by the project team to create spatially coherent units that are based on physiographic features such as mountain ranges and valley bottoms.





## **PROGRESS REPORT**

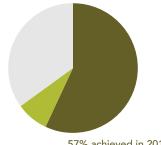
2019 – 2024

The CLN project measures progress toward five regional goals by analyzing newly conserved lands (see Figure 4) and assessing the gains made toward overall conservation targets for each goal. This analysis, performed for the CLN 1.0 Progress Report in 2014 and this CLN 2.0 Progress Report, utilizes data tracked in the Bay Area Protected Areas Database (BPAD). BPAD is maintained by TOGETHER Bay Area and GreenInfo Network, and the broader conservation community is invited to update their data in BPAD on a regular basis. Updated BPAD data feeds into the California Protected Areas Database (CPAD), which in turn informs other initiatives, including California's 30x30 goal. In addition to what is reported in this Progress Report, the CLN project maintains an online Progress Dashboard that provides high-level summaries of success at regional and county levels which is available at <u>www.BayAreaLands.org</u>.

The five regional goals of CLN 2.0 focus on conserving the ecosystem processes and landscape features that support a thriving biodiversity. Progress toward each goal is tracked via one or more quantitative metrics, such as acreage-based goals, stream miles, and number of water bodies.

This chapter provides a close look at each of the five goals and the progress made toward each one from early 2019 through end-of-year 2023.

#### Goal 1, Metric1. Conserve 2.5M acres of priority lands:



57% achieved in 2019 65% achieved in 2024

#### Goal 1 — Conserve 2.5M acres of priority lands by the year 2050.

The Conservation Lands Network 2.0 proposes a bold target to safeguard approximately 50% of the Bay Area's terrestrial habitats about 2.5 million acres — by 2050. Climate models predict intensifying weather extremes due to global climate change in the coming decades, and most models agree that we will see a steep increase in these events by 2050. Crucially, the CLN identifies lands that will most effectively preserve biodiversity and ecological processes while enhancing climate resilience. Serving as a roadmap to this broad goal, the CLN provides a regional framework for maintaining the ecological integrity of nearly 5 million acres across the Bay Area (please see the Achieving 50x50 chapter for more about this target).

#### Progress toward Goal 1 between 2019 and 2023

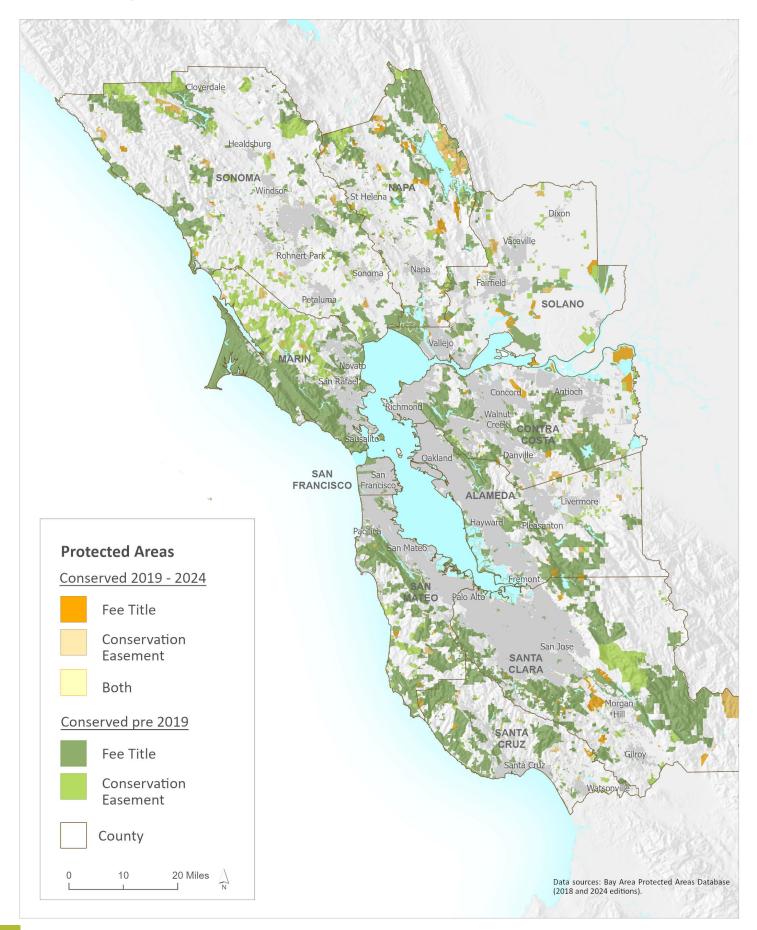
132,320 acres were conserved by year-end 2023 than were conserved at the start of 2019. Over those five years, each of the 10 Bay Area counties saw increases. These aren't just any acres — these conservation projects conserved significant native habitat, advanced specific habitat goals (see Goal 2 below), and kept the region on track to conserve 50% by 2050. Conservation organizations closed the gap toward 2050 targets by 9%.

COUNTY	Conserved Acres, 2018	Conserved Acres, 2024	Acres added between 2018 and 2024	% Progress
Alameda	123,530	132,671	9,141	7%
Contra Costa	147,967	167,224	19,257	13%
Marin	201,086	219,792	18,706	9%
Napa	157,021	185,077	28,056	18%
San Francisco	5,458	5,828	370	7%
San Mateo	121,278	123,070	1,792	1%
Santa Clara	257,596	271,022	13,426	5%
Santa Cruz	90,921	93,211	2,290	3%
Solano	76,470	97,969	21,499	28%
Sonoma	217,387	235,170	17,783	8%
TOTAL	1,398,714	1,531,034	132,320	9%

#### Table 1. Additional Conserved Acreage 2018 - 2024

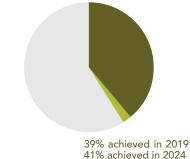
#### Figure 4. Progress in Conserved Areas, 2019 and 2024

Data from 2024 Bay Area Protected Areas Database (BPAD).

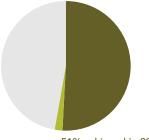


#### Goal 2, Metric 1. Conserve and steward rare and

irreplaceable landscapes:

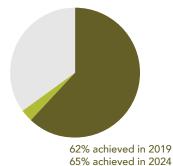


Goal 2, Metric 2. Conserve 90% of Rank 1 habitats:

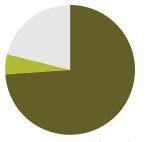


51% achieved in 2019 53% achieved in 2024

#### Goal 2, Metric 3. Conserve 75% of Rank 2 habitats:



Goal 2, Metric 4. Conserve 50% of Rank 3 habitats:



74% achieved in 2019 79% achieved in 2024

## Goal 2 — Conserve rare, diverse, and irreplaceable landscapes, and manage them for health and resilience.

Rare, diverse habitats are crucial across various ecological levels. Beyond providing homes for unique or endemic species, these uncommon environments often serve as linchpins in broader ecosystems and the surrounding landscape. The intricate tapestry of an ecosystem relies on the presence of all its threads, with rare habitats weaving in essential elements of functionality. By contributing to ecosystem diversity, rare habitats enhance overall biodiversity. Unfortunately, their scarcity makes them particularly vulnerable to human-driven land use changes. In biodiversity hotspots like the Bay Area, identifying and prioritizing these habitats is especially important. While all natural areas are valuable, the concept of an "irreplaceable landscape" in the CLN framework specifically refers to the connected network of lands that derive from the computer modeling and are critical for meeting the goals set for coarse-filter and fine-filter conservation targets.

#### Progress toward Goal 2 between 2019 and 2023

80,000 acres of irreplaceable landscapes (i.e., the modeled CLN network lands) were conserved. 3,770 acres of Rank 1, 15,631 acres of Rank 2, and 77,904 acres of Rank 3 habitats were conserved, for a total of 97,305 acres of priority habitats within and beyond the CLN's mapped network of Essential, Important, and Connector lands.



### **Progress Report Highlights by County**

#### Santa Clara

The Valley Habitat Agency, in collaboration with local partners, has led the acquisition of over 10,000 acres of biologically irreplaceable land, a figure that rises to approximately 14,000 acres with the inclusion of the 3,900-acre Richmond Ranch. This land, characterized by rare serpentine grasslands and key covered species outlined in the Habitat Plan, will be enrolled in the Habitat Conservation Plan/Natural Community Conservation Plan (HCP/NCCP) and benefit from dedicated long-term stewardship funding. Notably, it includes O'Connell Ranch, one of the few conserved properties within the Pacheco Pass Landscape Unit of the Critical Linkages Network (CLN).

The Coyote Valley Landscape Linkage, a collaborative effort by Peninsula Open Space Trust, Santa Clara Valley Open Space Authority, and Santa Clara Valley Habitat Agency, has successfully secured approximately 4,000 acres of valley floor and other critical linkage lands. This initiative features highly advanced work on wildlife connectivity, with planned infrastructure improvements to support the ecological integrity of the landscape.

#### San Mateo

The Jones Gulch Boy Scout Camp, spanning approximately 900 acres, is now under a conservation easement managed by Sempervirens Fund. Additionally, 542 acres along Tunitas Creek have been preserved by Midpeninsula Regional Open Space District, further enhancing the protection of vital natural resources in the region.

Significant progress has been made in restoring ecological connectivity and floodplain health, including the removal of movement barriers along Pescadero Creek and major floodplain restoration efforts on Butano Creek.

#### Santa Cruz

The Laurel Curve wildlife tunnel has been constructed and is already in use, enhancing safe wildlife movement in the area. Significant land conservation efforts include the protection of approximately 700 acres at Estrada Ranch near the crest of the Santa Cruz Mountains and a 617-acre easement at Valencia Forest, both led by POST. Additionally, critical redwood acquisitions have been secured in northern Santa Cruz County, further safeguarding this vital ecosystem.

#### San Francisco

The San Francisco Presidio is witnessing exciting efforts to reintroduce native species, restoring the ecological balance of this historic and biodiverse area. These initiatives include the return of species such as the Western pond turtle and native plant communities that support pollinators and other wildlife. By recreating habitats and carefully managing the landscape, these reintroductions aim to strengthen the Presidio's ecological resilience and reconnect urban residents with the natural heritage of the region.

#### Marin

Marin Agricultural Land Trust has secured conservation easements on approximately 2,000 acres, while the restoration of Muir Beach and Redwood Creek has been successfully completed, enhancing habitat and ecological health in the region.

#### Sonoma

The Gloekner-Turner, Cooley Ranch, and Baxter conservation easements collectively represent a significant expanse of conserved land, with their total acreage highlighting the regional scale of conservation. Additional achievements include the preservation of Rips Redwoods and the Harold Richardson property, home to towering, complex redwood forest ecosystems, and the Foppiano Conservation Easement along the Russian River. Furthermore, over 1,000 acres at McCormick-Weeks Ranch in the southern Mayacamas have been secured, contributing to landscape-scale conservation in that region. All of the above testifies to the work and partnerships of Sonoma Ag + Open Space, Sonoma Land Trust, Sonoma County Regional Parks, and LandPaths.

#### Napa

The Land Trust of Napa County has played a leading role in conserving the majority of newly protected land in Napa. Through a series of significant fee title and conservation easement acquisitions (Monticello Ranch, Gunn Ranch, Running Deer Ranch, Wragg Ridge, and others), the organization has safeguarded tens of thousands of acres, contributing to regionally scaled conservation of critical habitats and species movement corridors.

#### Solano

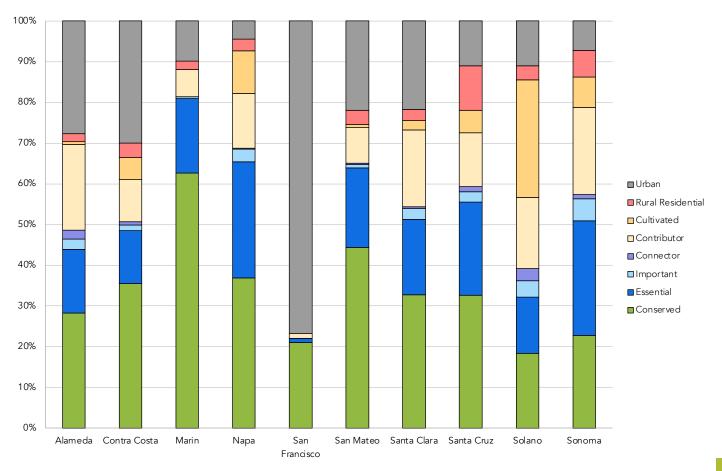
Grizzly Ranch in the Grizzly Island area of the Baylands, represents a key conservation achievement. In the Vaca Mountains, the Brazelton property has been preserved through the efforts of the local Land Trust. Meanwhile, Solano County has yet to establish a Habitat Conservation Plan (HCP), leaving opportunities for future conservation initiatives in the region.

#### **Contra Costa**

The Concord Naval Weapons Station has been re-established as Thurgood Marshall Regional Preserve under the East Bay Regional Park District. Conservation easements by California Natural Resources Agency on Chipps Island and Winter Island in the Delta secure hundreds of acres of bird habitat. Additionally, in the Tassajara Hills, the Brown Ranch and Richely Conservation Easement, held by the Agricultural-Natural Resources Trust, now forms a contiguous core of conserved habitat with Doolan Canyon, strengthening biodiversity in the Mount Diablo subregion.

#### Alameda

In Alameda County, the California Rangeland Trust has completed several conservation projects, protecting over 1,000 acres of valuable rangeland. Additionally, Tesla Park has been preserved, ensuring the protection of its unique ecological and cultural resources.



#### Figure 5. Proportion of Uplands "Available" for Conservation, by County

#### Table 2. Additional Conserved Acreage, by Vegetation Type

Conservation Progress by Vegetation Type Between 2019 and 2024. Vegetation types are sorted in descending order by the amount of progress (in acres) toward their respective goals since CLN 2.0, for the ten-county study area. For definitions of vegetation types, see Figure 4.5 in the CLN 1.0 report. Source: Bay Area Protected Areas Database 2018 and 2024 editions.

VEGETATION TYPE GOALS	THE	N	NC	w	PROGRESS			
		Acres conserved as of 2019	Progress as of 2019	Acres conserved as of 2024	Progress as of 2024	Progress, 2019- 2024	% Change	
Warm Grasslands	484,321	243,523	151,889	61%	166,285	68%	14,396	9%
Blue Oak	189,149	97,125	74,706	73%	87,960	91%	13,254	18%
Hot Grasslands	278,152	143,009	63,071	44%	71,629	50%	8,558	14%
Lower Montane Mixed Chaparral	144,740	75,831	47,222	56%	53,233	70%	6,011	13%
Interior Mixed Hardwood	276,375	141,449	86,964	60%	92,721	66%	5,757	7%
Redwood - Douglas-Fir	173,832	92,154	64,253	65%	67,743	74%	3,490	5%
Coast Live Oak	228,279	121,099	104,450	79%	107,570	89%	3,120	3%
Pacific Douglas-Fir	163,489	86,077	72,933	68%	75,052	87%	2,118	3%
Gray Pine	32,409	24,306	13,483	55%	15,601	64%	2,117	16%
Redwood	119,731	62,443	53,045	85%	55,067	88%	2,022	4%
Serpentine Chaparral	40,020	31,954	19,991	62%	21,839	68%	1,849	9%
Chamise	96,023	55,225	47,972	84%	49,614	90%	1,642	3%
Agriculture (General)*	66,875	33,438	27,342	74%	28,935	87%	1,593	6%
Coastal Mixed Hardwood	59,588	40,327	29,848	67%	31,308	78%	1,459	5%
Montane Mixed Hardwood	38,177	20,568	10,221	50%	11,206	54%	985	10%
California Bay	47,464	27,946	28,359	78%	29,260	100%	901	w
Serpentine Grasslands	16,472	14,825	7,541	51%	8,392	57%	851	11%
Oregon White Oak	37,603	20,247	5,437	19%	6,286	31%	850	16%
Cool Grasslands	59,000	46,299	37,659	74%	38,443	83%	784	2%
Moderate Grasslands	91,954	58,319	44,576	70%	45,203	78%	627	1%
Serpentine Hardwood	14,865	13,379	5,128	38%	5,614	42%	486	9%
Interior Live Oak	9,030	6,773	4,921	69%	5,321	79%	400	8%
Scrub Oak	9,252	6,939	3,131	45%	3,518	51%	387	12%
Douglas-Fir - Ponderosa Pine	9,565	7,174	3,453	48%	3,814	53%	361	10%
Knobcone Pine	13,157	11,842	6,823	58%	7,172	61%	349	5%
Coyote Brush	61,684	38,285	44,115	87%	44,445	100%	330	1%

VEGETATION TYPE GOALS	THE	N	NC	w	PROGRESS			
Vegetation Type (CLN 2.0)	Total acres in the CLN 2.0 study area	CLN 2.0 acreage goal	Acres conserved as of 2019	Progress as of 2019	Acres conserved as of 2024	Progress as of 2024	Progress, 2019- 2024	% Change
Dune	679	509	404	66%	624	100%	220	54%
Serpentine Conifer	7,858	7,072	3,521	50%	3,688	52%	168	5%
Tanoak (Madrone)	25,343	12,797	5,916	46%	6,067	47%	151	3%
Tule - Cattail	4,238	3,179	2,282	71%	2,430	76%	148	6%
Riparian Mixed Hardwood	8,461	7,614	3,631	47%	3,767	49%	136	4%
Canyon Live Oak	7,180	5,385	2,034	37%	2,163	40%	129	6%
Ponderosa Pine	3,197	2,610	1,753	61%	1,866	71%	113	6%
Black Oak	4,278	3,208	776	21%	881	27%	105	14%
McNab Cypress	9,715	8,744	5,602	63%	5,705	65%	103	2%
Perennial Grasses and Forbs	1,927	1,446	848	53%	943	65%	95	11%
Willow (Shrub)	2,447	2,202	1,117	51%	1,210	55%	93	8%
Sargent Cypress	2,971	2,674	2,317	80%	2,400	90%	83	4%
California Sagebrush	37,399	19,887	22,476	93%	22,559	100%	82	0%
Valley Oak	6,448	5,803	2,628	45%	2,675	46%	46	2%
Fremont Cottonwood	1,133	1,020	40	5%		8%	37	93%
Alkaline Mixed Grasses	628	471	211	43%	246	52%	35	17%
White Alder	340	306	185	56%	211	69%	26	14%
Willow - Alder	1,037	933	566	59%	589	63%	22	4%
Riparian Mixed Shrub	493	444	118	27%	139	31%	21	18%
Willow	1,569	1,412	682	47%	701	50%	19	3%
Alkaline Mixed Scrub	285	257	44	17%	62	24%	18	41%
Serpentine Riparian	65	58	14	24%	24	41%	10	71%
Alkaline Flats	41	31	10	30%	18	58%	8	80%
Mixed Conifer - Pine	445	334	328	83%	336	100%	8	2%
Wet Meadows	163	144	91	57%	99	69%	7	8%
Ceanothus Mixed Chaparral	5,076	3,807	542	14%	547	14%	6	1%
California Sycamore	255	229	100	41%	105	46%	5	5%
Vernal Pool	129	116	110	97%	115	99%	5	5%
California Buckeye	110	83	41	50%	42	51%	1	2%
Beach Sand	332	249	288	100%	289	100%	1	0%
Blueblossom Ceanothus	16	12	12	82%	12	100%	0	0%
California Juniper (shrub)	191	143	191	100%	191	100%	0	0%
Coastal Bluff Scrub	5	4	5	100%	5	100%	0	0%
Coastal Prairie	2	2	0	0%	0	0%	0	0%

VEGETATION TYPE GOALS	THE	N	NC	w	PROGRESS			
Vegetation Type (CLN 2.0)	Total acres in the CLN 2.0 study area	CLN 2.0 acreage goal	Acres conserved as of 2019	Progress as of 2019	Acres conserved as of 2024	Progress as of 2024	Progress, 2019- 2024	% Change
Coulter Pine	258	232	67	26%	67	29%	0	0%
Grand Fir	196	176	45	26%	45	26%	0	0%
Intermittent Lake or Pond	240	180	154	69%	154	86%	0	0%
Madrone	1,549	1,162	78	6%	78	7%	0	0%
Manzanita Chaparral	265	199	110	50%	110	55%	0	0%
Monterey Cypress	104	78	73	93%	73	94%	0	0%
Playa	48	36	0	0%	0	0%	0	0%
Pygmy Cypress	113	102	113	100%	113	100%	0	0%
Red Alder	173	130	103	67%	103	79%	0	0%
Salal - California Huckleberry	11	8	11	100%	11	100%	0	0%
Shreve Oak	130	117	102	87%	102	87%	0	0%
Ultramafic Mixed Conifer	6	6	0	3%	0	0%	0	0%
Upper Montane Mixed Chaparral	11	8	8	94%	8	100%	0	0%
Wedgeleaf Ceanothus	27	20	0	2%	0	0%	0	0%
Serpentine Scrub	614	460	338	58%	338	73%	0	0%
Vegetated Dune	93	84	84	100%	84	100%	0	0%
Bishop Pine	6,947	5,753	4,228	64%	4,228	73%	0	0%
Monterey Pine	2,571	1,594	1,879	74%	1,879	100%	0	0%
Pickleweed - Cordgrass	1,336	1,002	962	81%	962	96%	0	0%
North Coast Mixed Shrub	2,128	1,596	1,404	83%	1,404	88%	0	0%
Serpentine Barren	1,068	961	801	82%	801	83%	0	0%
Barren	6,576	4,713	1,842	35%	1,842	39%	0	0%

#### **Ranked habitats**

Ranking habitats on a scale of rarity enables the CLN to prioritize conservation efforts, ensuring that the most rare and critical habitats receive the highest level of protection, while still maintaining a significant portion of more common habitats.

- Rarity Rank 1 Habitats: The rarest and most irreplaceable habitats as determined by the CLN Vegetation Focus Team.
- **Rarity Rank 2 Habitats:** Habitats that are less rare than Rank 1 but still considered important.
- **Rarity Rank 3 Habitats:** Habitats that are more common, but still important for overall biodiversity.

#### Coarse vs. fine-filter conservation targets

The CLN uses a coarse-filter and fine-filter approach to map a network of lands that will maintain regional biodiversity. The main difference between the two approaches is the focus of conservation:

- **Coarse filter:** Focuses on conserving higher-order aggregations of species or environmental units. This filter level aims to ensure representation of the constituents of a particular ecological level.
- **Fine filter:** Focuses on meeting the conservation needs of individual species. This filter level aims to save vulnerable species from extinction.

The CLN's process for identifying conservation targets begins with selecting ecological communities as coarse-filter targets. Then, focus teams made up of experts add plant and animal species with unique ecological requirements, which are called fine-filter targets.

#### Table 3. Additional Protected Acreage of Rare Landscapes, by Landscape Unit

Since 2019 approximately 14,700 acres of rare landscapes (having Rarity rank 1 or 2 status) have been protected throughout the 10-County Bay Area. Thus, over 11% of newly protected lands are "rare" and therefore contribute toward the strategic protection of 2.5 million acres. These landscapes were protected in 33 of the 36 landscape units across the region. \*Negative progress amounts are a result of removals of land previously considered conserved.

Landscape Unit			Rarity Rank 1				Rarity Rar	nk 2	Rarity Rank 3			Total
	Total Acreage	Acreage Goal	2019	2024	Progress, 2019-2024	2019	2024	Progress, 2019-2024	2019	2024	Progress, 2019-2024	Progress total* 2019-2024
American Canyon	28,105	15,009	236	263	27	608	603	-5	8,614	9,178	564	586
Blue Ridge Berryessa	223,520	133,139	6,986	7,295	309	31,722	37,318	5,596	47,199	64,210	17,011	22,916
Coastal Grasslands	95,584	34,083	205	227	22	8,050	8,916	866	8,523	9,063	540	1,428
Contra Costa Delta	9,143	5,691	170	305	135	1,455	1,518	63	925	1,276	351	549
Marin Coast Range	173,919	82,625	7,654	7,730	76	19,943	20,030	87	69,738	70,625	887	1,050
Middle East Bay Hills	50,238	26,713	1,524	1,509	-15	2,867	2,868	1	22,196	23,567	1,371	1,357
Montezuma Hills	48,365	24,361	5	13	8	48	85	37	4,267	4,273	6	51
Mount Hamilton	544,575	296,254	6,346	6,339	-7	33,977	34,899	922	163,571	172,013	8,442	9,357
Mt. Diablo Range	173,661	90,949	799	874	75	12,028	12,107	79	68,938	75,122	6,184	6,338
Napa Valley	1,719	1,338	57	62	5	208	209	1	0	0	0	6
North Contra Costa Valley	2,932	1,481	0	0	0	1	1	0	139	414	275	275
North East Bay Hills	45,400	24,858	158	159	1	5,588	5,708	120	23,604	23,786	182	303
Northern Mayacamas Mountains	100,094	58,435	2,884	2,914	30	3,553	3,592	39	15,947	15,989	42	111
Pacheco Pass	24,618	12,633	0	26	26	212	212	0	441	1,376	935	961
Point Reyes	56,004	33,773	798	716	-82	20,565	20,498	-67	31,310	31,288	-22	-171
Russian River Valley	19,276	12,197	260	534	274	264	383	119	1,973	2,389	416	809
San Francisco	2,512	945	1	1	0	1,097	1,098	1	0	0	0	1
Santa Clara Valley	1,574	899	121	133	12	58	58	0	463	506	43	55
Santa Cruz Mountains Mid	120,780	70,629	7,812	8,117	305	11,717	11,773	56	44,686	46,149	1,463	1,824
Santa Cruz Mountains North	208,412	116,412	2,736	2,707	-29	22,116	22,350	234	94,898	95,148	250	455
Santa Cruz Mountains South	67,263	39,599	728	863	135	3,127	3,297	170	15,773	16,497	724	1,029
Santa Rosa Plain	3,197	2,056	23	29	6	455	463	8	263	275	12	26
Sierra Azul	114,273	65,040	3,219	4,124	905	6,735	7,516	781	34,654	39,658	5,004	6,690
Solano Delta	43,412	22,810	581	675	94	983	1,112	129	7,988	9,431	1,443	1,666
Solano Plains	15,581	7,959	28	31	3	66	86	20	995	1,247	252	275
Sonoma Coast Range	375,544	209,055	8,575	8,743	168	14,679	15,167	488	74,716	81,239	6,523	7,179
Sonoma Mountain	55,228	30,579	808	808	0	4,382	4,554	172	13,610	14,330	720	892
Sonoma Valley	1,625	1,131	35	34	-1	298	262	-36	73	44	-29	-66
South East Bay Hills	36,382	18,824	200	200	0	869	874	5	17,250	17,211	-39	-34
Southern Mayacamas Mountains	121,507	68,662	2,873	2,950	77	3,463	3,813	350	19,543	21,608	2,065	2,492
Tri-Valley	6,209	3,168	73	73	0	0	0	0	616	682	66	66
Vaca Mountains West	149,470	87,609	4,136	4,275	139	12,678	14,516	1,838	24,501	28,990	4,489	6,466
GRAND TOTAL	2,920,122	1,598,916	60031	62729	2698	223812	235886	12074	817,414	877,584	60,170	74,942

#### Notable Wins + Work to Do

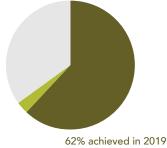
Significant gains toward individual vegetation type conservation goals include:

- In 2019, Fremont Cottonwood Woodland, an alluvial riparian habitat, was at 5% of its acreage goal for 10 years. Since 2019, conserved acreage of these habitats has nearly doubled to 77 acres. Although we have a long way to go to reach the acreage target for Fremont Cottonwood Woodland at 1,020 acres, we are trending in the right direction and away from stagnation. Habitats like this are engines of biodiversity and are under threat of development. The targeting of riparian habitats by the Sonoma County Agricultural Preservation and Open Space District is responsible for this significant increase in Fremont Cottonwood Woodland conservation, in particular the Foppiano conservation easement along the Russian River near Healdsburg. The Santa Clara Valley Habitat Conservation Plan and the East Contra Costa County Habitat Conservation Plan targets these valuable habitats as well.
- Blue oak woodland saw significant increases in conservation status since 2019. From 72.9% up to 86.2% of its goal. Several fee title and conservation easement acquisitions (Monticello Ranch, Gunn Ranch, Running Deer Ranch, Wragg Ridge, and others) by the Land Trust of Napa County in the Blue Ridge Mountains above Napa Valley resulted in over 11,000 acres of newly conserved blue oak woodlands. Another 600 acres of blue oak woodland were conserved in 2023 with the acquisition by Peninsula Open Space Trust of the Lakeside Ranch property in the foothills west of Coyote Valley.
- Between 2019 and 2024, gray pine woodland saw an increase of over 2,000 acres, or nearly 9% toward its goal of 24,300 acres.. The acquisition by the Land Trust of Napa County of Wragg Ridge contributed greatly to the gains for gray pine woodland.
- With the acquisition of a conservation easement on Gloeckner-Turner Ranch by the Sonoma County Agricultural Preservation and Open Space District, Oregon oak woodland conservation increased by 820 acres, reaching 31% of its goal of approximately 20,000 conserved acres. This is the first significant gain for Oregon oak woodland in over a decade.

Stalled goals that require continued attention include:

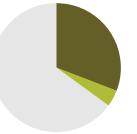
- Conservation has remained stagnant for valley oak woodlands for 14 years now. Valley oak woodlands are ecologically important for species such as acorn woodpeckers, deer, and a variety of small mammals, as their abundant acorn production supports high biodiversity and provides crucial food resources.
- Black Oak woodlands have been at 20% of their target acreage for 12 years. The state's Oak Woodland Conservation Program can be leveraged to conserve more oak woodlands in counties that have adopted Oak Woodland Conservation Plans.

#### Goal 3, Metric 1. Conserve large, contiguous habitat blocks:



62% achieved in 2019 65% achieved in 2024

Goal 3, Metric 2. Conserve connecting lands (linkages):



31% achieved in 2019 35% achieved in 2024

## Goal 3 — Conserve core habitats and the lands that connect them, and manage them for permeability, health, and resilience.

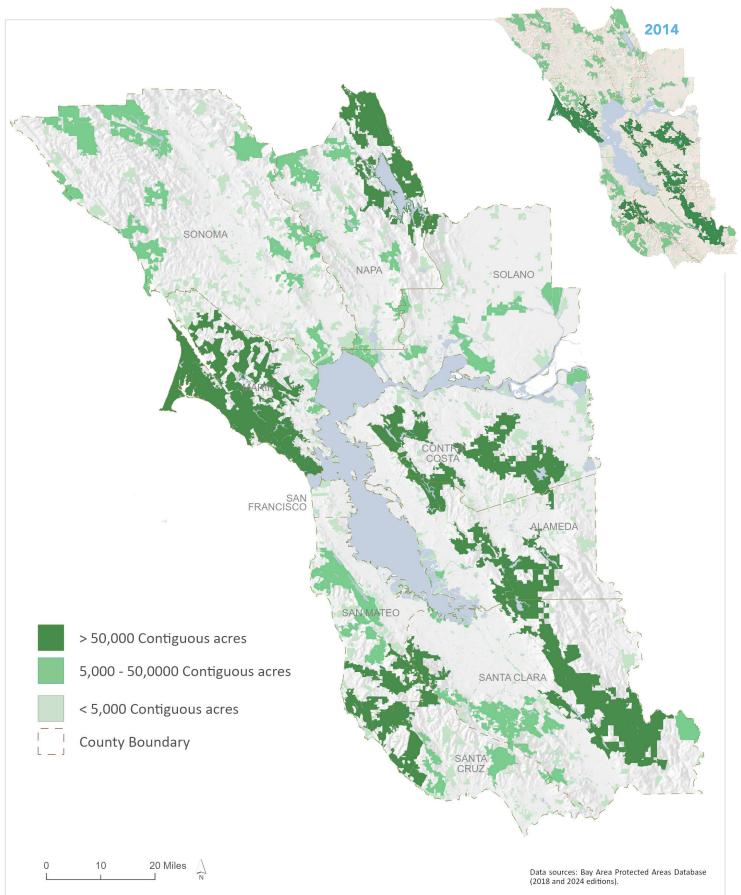
In the Bay Area's complex landscape of intermingled natural and developed areas, preserving a network of interconnected, permeable core habitats is crucial for ecosystem resilience. These core habitats, largely untouched by human development, encompass parks, preserves, watersheds, and working rangelands where biodiversity-sustaining processes remain intact. The CLN prioritizes these core areas, selecting high-ranking habitat types to form the foundation of the network. Equally important are the connections — often called "linkages" — between core areas. Linkages facilitate species dispersal and access to suitable habitats — particularly important as climate change shifts species' ranges. The mobility of species depends heavily on landscape permeability, which reflects the quality of the landscape's structure to allow animals to move freely between habitats, through a matrix of land uses and free from barriers.

#### Progress toward Goal 3 between 2019 and 2023

34,684 acres of critical linkages were conserved. In a win for terrestrial wildlife with large habitat ranges, one-third of all lands conserved in that time were critical linkages.

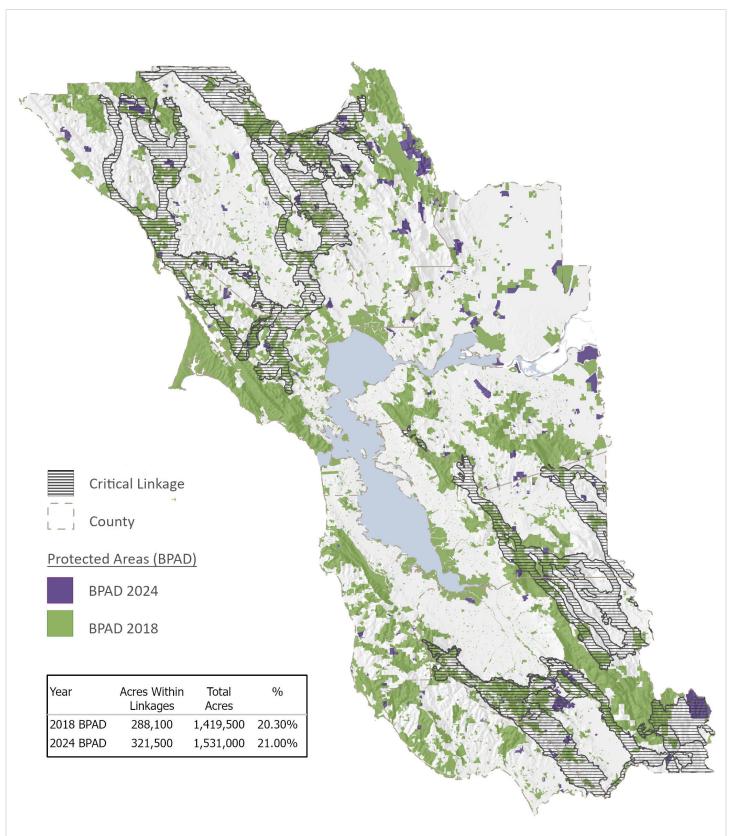


Figure 6. Contiguous Protected Areas The CLN study area includes 42 blocks (up from 33 in 2014) of protected lands greater than 5,000 acres. Data from BPAD 2024.



#### Figure 7. Protected lands within Critical Linkages, in the 10-County Bay Area

Critical habitat linkages connect large blocks of open lands, habitats and rare landscapes, many of which are comprised of already conserved areas. Areas protected since 2019 within a Critical Linkage are highlighted. Data: BPAD 2024; Bay Area Critical Linkages 2013.



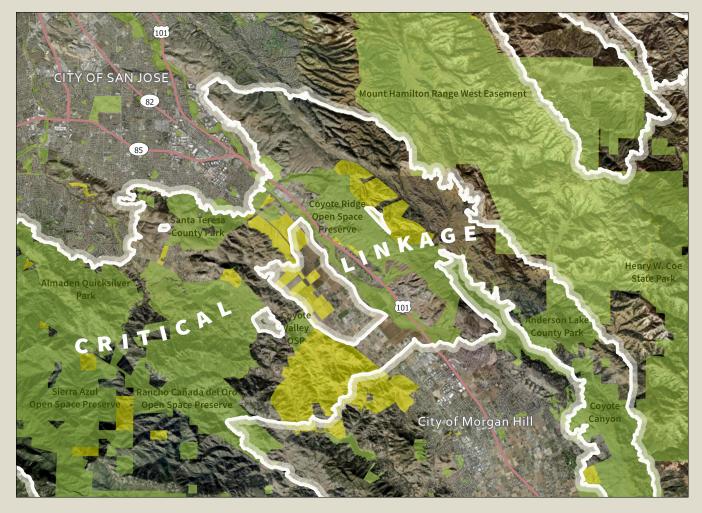
0 10 20 Miles

N

Data sources: Bay Area Protected Areas Database (2018 and 2024 editions).

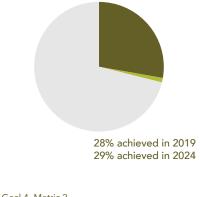
#### Coyote Valley: A tale of linkages.

The land conservation efforts in Coyote Valley, Santa Clara County, represent a remarkable, and ongoing, story of keeping wildlife habitat connected. Through unique partnerships of multiple organizations, a vital corridor is becoming conserved forever that will allow animals such as mountain lions, bobcats, and deer to move freely between the Santa Cruz Mountains and the Diablo Range. This connectivity is essential for maintaining healthy populations, ensuring genetic diversity, and supporting species' long-term survival. The collaboration between local governments, conservation organizations, and community members has been key in securing these lands for wildlife and future generations. Coyote Valley now stands as a model for effective regional conservation, balancing ecological preservation with community needs.

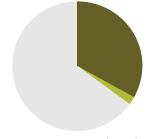


White outline: Critical Linkage. Green: Conserved land. Yellow: Newly conserved land (since 2019).

#### Goal 4, Metric 1. Conserve priority 1 and 2 streams:

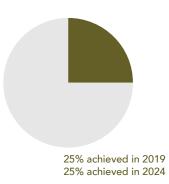


Goal 4, Metric 2. Conserve natural landcover within stream valleys:



34% achieved in 2019 36% achieved in 2024

#### Goal 4, Metric 3. Conserve ponds:



# Goal 4 — Conserve a regional network of streams, wetlands, ponds, seeps and associated riparian and upland areas, and manage for health and resilience.

The dynamic, intricate systems of water above and below ground — rivers, vernal pools, wetlands, seeps, lakes, ponds, streams, and watersheds — nurture life and biodiversity across the landscapes that comprise the CLN. As climate change exerts pressure on all aspects of ecosystems, moisture-rich areas buffer biodiverse environments from climate change impacts over time. Stream valleys and riparian zones nurture terrestrial and aquatic ecosystems by cycling and distributing water, moist air, and vital nutrients. Watersheds absorb flood water, reducing property damage, and intact headwaters maintain water supplies for both ecosystems and people. Wet areas also play an essential role in maintaining a healthy, rich tapestry of landscapes. In fact, the CLN 2.0 incorporated important new watershed and riparian habitat datasets that fortify the connections between upland, bayland, and subtidal habitat areas.

#### Progress toward Goal 4 between 2019 and 2023

46 miles of Priority 1 and 2 streams were conserved, specifically 19.3 miles of Priority 1 streams and 26.7 miles of Priority 2 streams. Importantly, 10,614 acres of natural stream valley cover and 184 ponds were conserved. Some of the many benefits of conserved streams and stream valleys include increased groundwater recharge, improved water quality and retention of flood flows, species protection and resilience, and climate resilience.



#### **Priority 1 & 2 Streams**

- Priority 1 streams and watersheds in the CLN are defined as having existing steelhead populations, available rearing habitat, and current or historic Coho populations that must be conserved or restored for fish conservation to be successful. Restoring flow is essential to the conservation of these species.
- Priority 2 streams are defined as having small steelhead and land-locked rainbow trout populations and/or other healthy assemblages of native fish. They may also be isolated stream segments with high conservation value. Substantial protection and restoration of these streams is essential for long-term fish conservation.

Stream Type	Total Miles	Protected 2019	Protected 2024	Increase
Priority 1	1,139	327	332	5
Priority 2	1,507	427	446	19
TOTAL	2,646	754	778	24

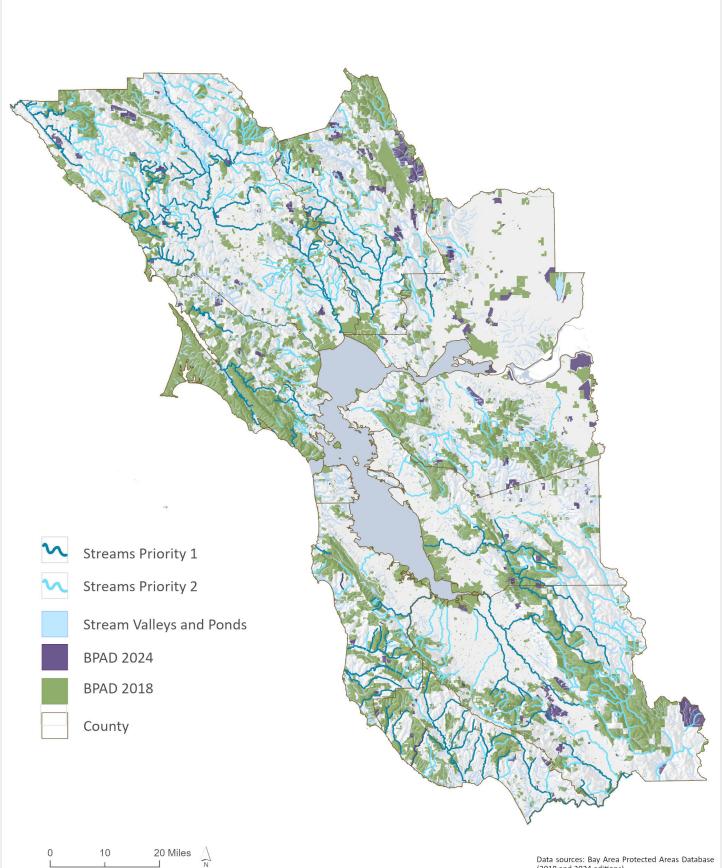
#### Table 4. Protected Stream Miles in the 10-County Bay Area

#### Table 5. Stream Miles Protected, 2019-2024, by County

	Conserved 2019	Conserved 2024	2019-2024 Progress*						
County	Total	Priority 1	Priority 2	Total	Priority 1	Priority 2	Total	Priority 1	Priority 2
Alameda	67.2	41.2	26	69.5	40.6	29	2.4	-0.6	3
Contra Costa	34.3	0	34.3	36.1	0	36.1	1.8	0	1.8
Marin	61.4	42.3	19.1	58	39.1	18.9	-3.4	-3.2	-0.2
Napa	58.1	11.8	46.3	66.9	14.7	52.2	8.8	2.8	5.9
San Mateo	74.4	48.3	26.2	72.5	45.9	26.5	-2	-2.3	0.4
Santa Clara	242.8	84.9	157.9	247.9	85.1	162.8	5.1	0.1	5
Santa Cruz	57.6	44.3	13.3	58.2	44.5	13.6	0.6	0.3	0.4
Solano	7.2	0	7.2	9.5	0.2	9.3	2.3	0.2	2.1
Sonoma	159.3	62.8	96.5	167.1	69.9	97.3	7.9	7.1	0.8
TOTAL	762.3	335.6	426.7	785.7	339.9	445.8	23.4	4.3	19.1

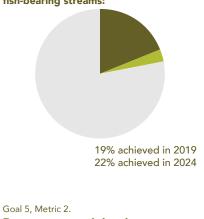
\*Negative progress is a result of removals of land previously considered conserved.

**Figure 8. Priority 1 and Priority 2 Streams in the 10-County Bay Area** Of the 2,646 miles of Priority 1 and Priority 2 streams throughout the Bay Area, nearly 786 miles are protected.

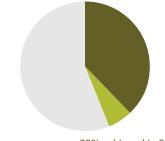


Data sources: Bay Area Protected Areas Database (2018 and 2024 editions).

#### Goal 5, Metric 1. Conserve groundwater recharge zones within planning watersheds of fish-bearing streams:



Preserve remaining intact headwater source areas:



38% achieved in 2019 44% achieved in 2024

## Goal 5 - Steward all lands to maintain ecological and hydrological processes that support ecosystem function and resilience.

Conservation extends beyond habitat preservation to encompass stewardship actions aimed at benefiting the ecological and hydrological processes that foster ecosystem function and resilience. Stewardship activities play a pivotal role in sustaining, enhancing, or mimicking natural processes that allow plant and animal populations to thrive. When successful, these activities advance plant and animal species movement through the landscape, keep moisture in creeks and soil, and positively address invasive species, disease, fire, and human resource use. A healthy ecosystem depends on a connection to the land by its people, and the CLN project recognizes the significant role that stewardship plays in ecosystem function and resilience, a role that will only increase in the future.

While developing the CLN 2.0 in 2019, the CLN Steering Committee decided to use groundwater recharge zones and headwater areas as indicators of progress towards Goal 5 about maintaining natural processes through stewardship. Both groundwater recharge zones and headwater areas are essential for maintaining the balance of natural water and sediment cycles and supporting biodiversity throughout entire watersheds. Both are excellent examples of the role of stewardship in the healthy functioning of natural processes. Stewardship that maintains healthy soil and native vegetation promotes water infiltration into the ground, allowing rainwater to percolate through the soil and replenish aquifers. Stewarding lands to minimize soil compaction, prevent overgrazing, and plant deep-rooted native plants can increase the soil's capacity to absorb and filter water. This reduces surface runoff and erosion, ensuring that more water reaches aquifers rather than being lost as surface flow. Restoring and maintaining riparian vegetation stabilizes soils and reduces sedimentation.

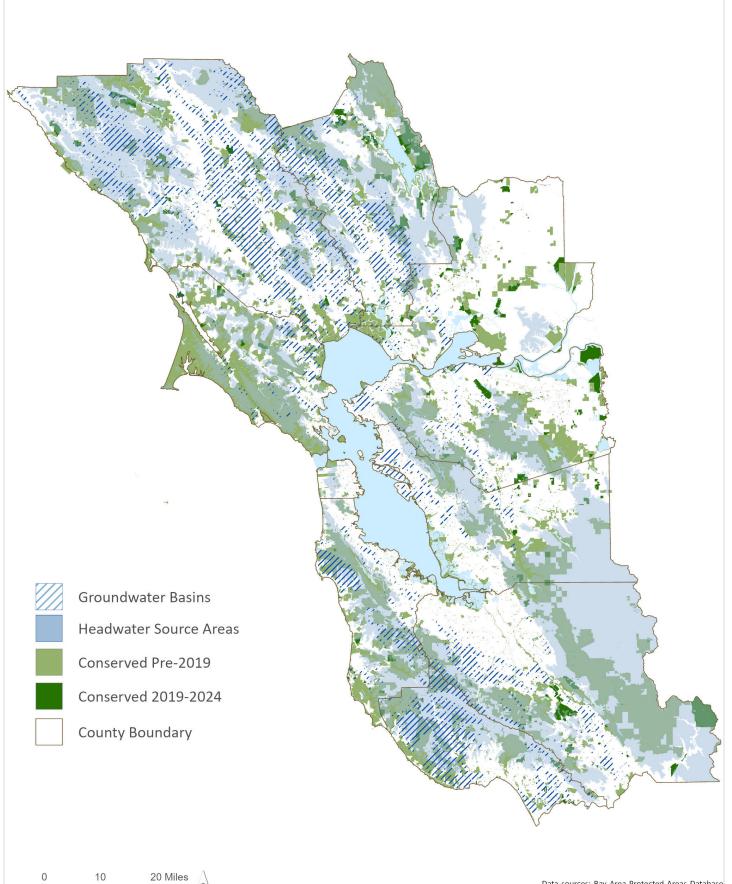
The CLN project acknowledges that using groundwater recharge and headwater sources as ways of measuring the health of the land is incomplete. These are just two of many indicators of a functioning ecosystem and of a thriving landscape. Determining accurate, durable, and effective ways of assessing ecosystem function at the scale of 10 counties, with hundreds of land owners, across 5 million acres is a complex and challenging undertaking. And we know that the stewardship of the land once it's been conserved is critical. The Bay Area needs to identify ways to measure progress towards ecosystem function and resilience, and this is one inquiry the CLN project will pursue in version 3.0.

#### Progress toward Goal 5 between 2019 and 2023

8,800 additional acres of high groundwater recharge zones within salmonid fish-bearing watersheds were conserved, as were 64,132 additional acres of headwater source areas.

The significant progress made from 2019 to 2023 for these five goals demonstrates the power of collaborative community efforts towards a shared vision and the effectiveness of a sustained science-based approach to conservation.

Figure 9. Newly Conserved Lands and Groundwater Recharge Zones and Headwater Source Areas, in the 10-county Bay Area



Data sources: Bay Area Protected Areas Database (2018 and 2024 editions).



# INTERCONNECTIONS

## The CLN's role as a collaborative decision-making tool

The CLN is not an isolated initiative, but rather one vital component in a range of conservation efforts and planning frameworks that span local, regional, and state levels within and beyond the Bay Area. It is woven throughout the region's conservation fabric, helping shape policy, inform decision-making, and foster collaboration across agencies, community organizations, and other entities working toward a brighter environmental future. In state-level initiatives such as California's goal to conserve 30% of the state's lands and waters by 2030 ("30x30"), regional conservation strategies like the CLN often serve as a critical resource that helps states better understand local conservation opportunities and challenges. The CLN is also a good example of accelerating regionally-led conservation — the first Pathway in California's Pathways to 30x30 report.

Inclusion of the CLN into key governmental and other organizational frameworks is not only a testament to the accessibility and robust value of the CLN itself but also the power of partnership in setting and reaching conservation goals.

### Metropolitan Transportation Commission (MTC) and Plan Bay Area 2050

The CLN played a crucial role in shaping the MTC's Strategy EN5: Protect and Manage High-Value Conservation Lands. EN5 is one of two strategies comprising the agency's Plan Bay Area 2050, which aims to conserve 50% of the Bay Area's natural and working lands by 2050. The CLN 2.0 Report and data framework were used to identify regional priority areas — categorized by CLN as Essential, Important and Connector lands — for conservation. Together, they total about 907,000 acres across the Bay Area.

The CLN's influence extends to the MTC's Priority Conservation Area (PCA) Grant Program, where it serves as a reference point for identifying regionally significant conservation lands. The program uses CLN data to inform priority area mapping and to guide decision-making on the allocation of conservation funding investment. In fact, the concentration of CLN Priority Lands in the North Bay has been used to justify directing a minimum of 50% of Phase 1 PCA grant investments to these counties.

Collaboration and shared values are key to conservation wins. The relationship between a trusted source of conservation priorities like the CLN and regional planning organizations like the MTC provides a strong foundation for effective, science-based conservation planning and implementation at a regional scale. It also enables coordinated conservation efforts across different scales of governance, from local to regional to state levels.

A unique and extremely valuable aspect of this partnership is that it enhances the ability to protect and manage important natural areas while also balancing human-centered regional planning objectives. Oftentimes, in the absence of community-vetted information like the CLN, conservation is pitted against human needs such as housing and transportation. This partnership demonstrates how conservation and human development goals can be integrated and addressed holistically, rather than viewed as competing priorities.

#### San Francisco Bay Joint Venture (SFBJV) Implementation Plan

The SFBJV incorporated CLN 2.0 into its updated Implementation Plan, using CLN data, findings and goals to set acreage targets for various habitat types including lakes, wetlands, vernal pools, stream valleys, and headwater creeks. An enhanced focus on headwaters and upper watershed areas in the Implementation Plan represented a significant expansion of SFBJV's focus beyond baylands to include watersheds and uplands. The CLN provided a scientific framework for identifying conservation priorities for those areas. More broadly, incorporation of the CLN data led to developing more comprehensive and coordinated conservation goals in the region.

### San Francisco Estuary Partnership (SFEP) Blueprint

The SFEP Blueprint, a key report detailing actions to protect and restore the San Francisco Estuary, draws on the CLN to help build a more integrated, effective approach to ecosystem conservation and restoration in the Bay Area. The Blueprint incorporates CLN data to inform quantitative conservation targets, especially for seasonal wetlands. In aligning its targets with CLN goals, the Blueprint recognizes the interconnectedness of upland and estuarine habitats, linking them through watershed connections and stream corridors. By coordinating efforts across the entire landscape gradient, from uplands to baylands, the synchronized goals promote more effective habitat protection, improved climate resilience, and enhanced wildlife corridors.

#### **Bay Area Greenprint**

The Bay Area Greenprint is a dynamic tool that maps and measures the multiple benefits of natural and agricultural lands to inform land use decisions. It is organized around nine of nature's values and benefits — from food production and water supply to carbon storage and habitat connectivity. The CLN's data form the backbone of the Greenprint's biodiversity-related benefits, and are instrumental in identifying prioritized habitats essential for preserving regional biodiversity. By integrating the CLN with other conservation elements like water resources, recreation, air quality, urban greening, and others, the Greenprint provides a comprehensive view of nature's benefits for its users. This holistic approach allows planners and policymakers to make more informed decisions about development, housing, transportation, and infrastructure while protecting critical habitats and ecosystem services across the region.

### New Information Incorporated into the CLN

The CLN is a dynamic framework that continually evolves to reflect and incorporate the most current conservation science, data, technology, and developments in land conservation. Sometimes this comes about through key partnerships and collaborative projects that bring complementary perspectives, insights, and scientific information from peer and partner organizations. Projects such as those below have enabled the CLN to grow its data collection, improve conservation outreach efforts, and embed its framework in new communities.

### **Connecting Urban Biodiversity Project**

A collaboration between TOGETHER Bay Area and the California Academy of Sciences, the "Connecting Urban Biodiversity" project highlights the importance of urban areas for regional biodiversity and engages urban residents in conservation efforts. It aims to fill data gaps identified during the CLN 2.0 update process, focusing on urban creeks identified as priorities in that report. The project connects biodiversity and social equity in conservation planning by combining professional conservation science with community science data from iNaturalist and organizations in severely disadvantaged communities. By incorporating urban habitat values into future CLN versions, this initiative seeks to enhance regional conservation planning and highlight the vital role of urban areas in supporting biodiversity.

### Bay Area Urban Species Search 2023

In another joint initiative focused on urban biodiversity, TOGETHER Bay Area and the California Academy of Sciences launched the Bay Area Urban Species Search in March of 2023. The project invited Bay Area residents to use iNaturalist to look for and document 24 species in cities, neighborhoods, backyards, and schoolyards across the Bay Area. Bringing this important biodiversity data into the CLN will help its contributing scientists improve mapping and understanding of the urbandwelling species identified by the CLN project for conservation.

#### Santa Cruz Mountains Stewardship Network's Sustainable Landscapes Health Assessment (SLHA)

The SLHA is an assessment tool and decision-support framework for the conserved and open spaces within the Santa Cruz Mountains Bioregion. Comprising three dimensions — ecosystem integrity, ecosystem services, and stewardship support — it is unique in that it applies a social science lens to conservation. This social lens represents a shift from traditional conservation assessments that focus solely on ecological factors toward a more holistic view that incorporates human dimensions of stewardship and conservation.

The first of its kind for the CLN, the SLHA is a screening-level approach to mapping human stewardship as a crucial component of ecosystem health, evaluating factors like stated organizational goals, collaborations between stewardship groups, and legal protections. The SLHA data has been incorporated into the CLN Explorer tool and offers information available for public use within the Santa Cruz Mountains range.

### **Parallel Regional Conservation Plans**

Conservation planning in the Bay Area is comprehensively addressed through three complementary plans: the Conservation Lands Network (uplands), the Baylands Ecosystem Habitat Goals (tidelands), and the Subtidal Habitat Goals Report (underwater Bay habitats). While each plan focuses on a distinct biome requiring specialized attention, these ecosystems are intrinsically linked through natural processes such as hydrology, sediment transport, nutrient cycling, and species movement. This trio of plans enables a holistic approach to conservation, recognizing the interdependencies between different habitat types and leveraging cross-agency expertise. By considering the full range of Bay Area ecosystems, from ridge tops to underwater landscapes, planners can better address cross-ecosystem impacts, support species relying on multiple habitats, and maintain crucial ecological processes. This integrated strategy enhances the region's resilience to climate change and promotes more effective, coordinated conservation efforts.



## **ACHIEVING 50X50**

The regional goal to conserve 50% of the 10-county Bay Area by 2050 was set by the CLN 2.0 Steering Committee in 2019, and adopted as a long-term priority of TOGETHER Bay Area in 2023. The 50x50 goal is based on CLN computer modeling and local expert opinion.

**Why 50%?** It is well documented that the Bay Area is a U.S. Biodiversity Hotspot (The Nature Conservancy/Stein et al., 2000). It is also home to 7.8 million human beings. Urbanized and urbanizing areas like the Bay Area require a significant level of conservation — such as 50% — because their ecosystems are more fragmented and pressured by human activity. In addition, the climate and topography that draws people here from all around the world is also attractive to a wide array of flora and fauna, from migrating birds along the Pacific Flyway to endemic plants, such as the Santa Cruz wallflower, and so much more. The CLN project's scientific modeling of priority lands, which assessed which lands are essential to meeting habitat-specific goals, resulted in acreage totals that equated to approximately half the land in the Bay Area (see Figure X). In order to match the increased pressures on the landscapes and ecosystems, the region requires the conservation of more ecologically important acres.

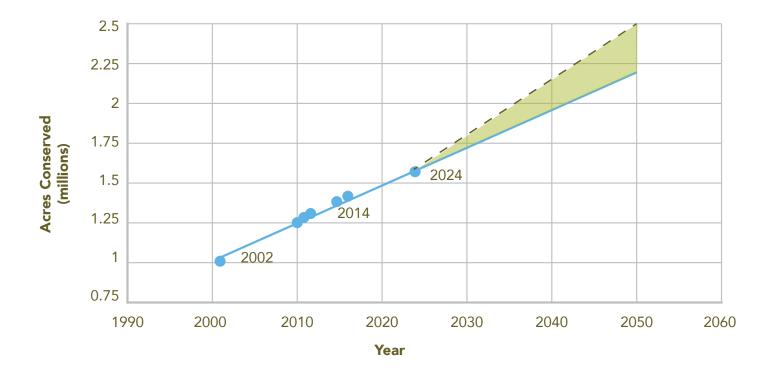
**Why 2050?** While the impacts of the climate and biodiversity crises are already being experienced here locally and across the globe, around 2050 is when most climate models agree that weather extremes caused by the climate crisis will sharply increase. A connected, conserved, and resilient network of strategically conserved and stewarded lands will need to be established by then to stave off the worst impacts.

Conserving 50x50 may seem like a daunting task. Yet it is achievable! Because of the region's long and successful track record of land conservation, the region could achieve 50x50 if there is significant and stable public funding for conservation and increased regional coordination. Indeed, the current trajectory of conservation in the San Francisco Bay Area reveals a gap of about 330,000 acres by 2050. Therefore, the region will have to pull together and increase our pace over the next 25 years. We know the region is up for the challenge.

The Bay Area's 50x50 goal can lift up other regional conservation goals around the state. For example, TOGETHER Bay Area's participation in California's 30x30 movement not only benefits the Bay Area but lands and communities across the state. And our efforts to secure significant and stable funding, (e.g., state budget allocations for the State Coastal Conservancy), will benefit landscapes, ecosystems, and communities up and down the state. While 50x50 is a goal for the Bay Area, it can lift up conservation work throughout California and help advance the state's goal of 30x30.

#### Figure 10. Trajectory of Land Conservation

The current trendline for conservation in the San Francisco Bay Area reveals a gap of about 330,000 acres by 2050.



## Identifying the most consequential lands

The CLN focuses on habitats and biodiversity as central to its strategy for preserving the region's natural heritage. By mapping and prioritizing a range of habitat types, the CLN aims to protect diverse ecosystems supporting both rare and common species. This habitat-based approach allows for the conservation of species, ecological processes, and large, connected areas crucial for maintaining genetic diversity and ecosystem resilience.

With area-based goals like 30x30 and 50x50, it is important to remember that not all areas provide the same ecological benefits or are equally important to the ecological integrity of an ecoregion. It is not enough to simply meet the area goal in terms of total acreage: the type of land matters immensely.

For instance, the 50% achieved in the Bay Area needs to be the most beneficial 50% of land types. To determine the highest priority lands, it is critical for the conservation community to come together and, aided by sound scientific techniques, identify the most important 50% to target for conservation. In developing the 50x50 goal and granular habitat-based targets, the CLN serves as a model for how conservation communities can collaborate to drive large conservation wins.

## Are 50x50 and 30x30 related?

The CLN's biodiversity conservation goal of 50x50 and the state of California's goal of 30x30 are related, and they support one another. The regionally coordinated conservation work underpinning 50x50 has been active for several decades, and we are excited to see similar area-based proportional goals gaining traction in recent years. We view them as powerful rally points that drive conservation efforts to new levels that are also rooted in science. The state's 30x30 initiative is helping to drive conservation in the Bay Area as it is elsewhere. The CLN's goal of 50x50 reflects the need across the state in urban and urbanizing areas — such as the Bay Area, Sacramento, Los Angeles, San Diego, and others — to aim for a higher conservation proportion. The pressures on the environment caused by human activity and the fragmentation of the landscape are greater in these areas. As fragmentation and other human-related stressors increase, so do the chances of destroying important connections between remaining habitat patches and watercourses. Both initiatives point to a future where biodiversity persists and the ecosystems on which people depend are healthy and functioning in the face of climate change.

### **Conservation benefits biodiversity — and people**

50x50 is a goal to ensure the Bay Area's biodiversity and ecosystem processes are resilient enough to withstand the pressures of human activity and climate change. However, there is legitimate debate about their impact on people and land-use needs. While 50x50's primary aim is to safeguard ecosystems for people and wildlife, some may argue that such ambitious targets can sometimes overlook or conflict with human needs, particularly in terms of housing and agriculture — especially where land is already in high demand.

However, we argue that human well-being and land conservation are highly interdependent. In fact, in the Bay Area, conservation efforts incorporate sustainable development goals, support livelihoods, and improve ecosystem services for people, all of which directly benefit communities. Often, the challenge lies in finding a balance and understanding the trade-offs between protecting biodiversity and ensuring equitable land use for humans. The Conservation Lands Network aids in finding that balance by articulating where the ecosystem — and we humans — would lose the most should we develop those areas.

One success story of striking this essential balance is found in the Metropolitan Transportation Commission's (MTC) Plan Bay Area 2050, a bold regional framework outlining strategies across transportation, housing, the environment, and the economy for the period 2021 through 2050. The MTC plan incorporated CLN data frameworks and mapping tools to ensure that CLN-identified Essential, Important, and Connector lands in each county will be considered as part of MTC's broad strategy in building a sustainable and resilient Bay Area now and into the future.



## LOOKING AHEAD

Since the publication of CLN 2.0 in 2019, our world has undergone significant changes. The COVID-19 pandemic reshaped our lives, leaving us with a heightened awareness of human impacts on nature, a stronger sense of the collective good, and a deeper appreciation for the outdoors. Simultaneously, we've witnessed an increase in catastrophic wildfires caused by climate change, historical fire suppression, and expanding urban-wildland interfaces all contributing to larger, more intense blazes.

Despite these challenges, hope abounds. In 2020, California established the ambitious 30x30 goal, aiming to conserve 30% of the state's lands and coastal waters by 2030. This initiative combats biodiversity loss and climate change while promoting economic sustainability, food security, and equitable outdoor access. It emphasizes collaboration, nature-based solutions, and Tribal engagement for co-management and ancestral land return.

The conservation landscape is evolving rapidly. Tribal partnerships are gaining prominence, with Indigenous knowledge increasingly influencing conservation strategies. Urban areas are now recognized as vital habitats for biodiversity, challenging the notion of cities as ecological "dead zones." Even the concept of stewardship is expanding, as we navigate the complex balance between human needs and conservation. In response to these shifts, the forthcoming CLN 3.0 is adapting its approach:

**Inclusive Participation**: CLN 3.0 will more deeply reflect that people are a part of nature, not apart from it. We will be incorporating learnings from our Connecting Urban Biodiversity project and Wildfire Data Working Group and exploring ways for greater participation across a broader range of organizations and municipal programs, including ones that engage communities, focus on land stewardship, or manage municipal resources.

**New and Different Voices**: Conservation has long been a white culturedominated, Western science-driven process, but a new era is quickly emerging. The CLN 3.0 project will continue engaging the broader conservation community to inform priority actions and mapping, aiming to create a more equitable, joyful and effective conservation process that benefits all Bay Area residents. Importantly, TOGETHER Bay Area's coalition has expanded to include Tribes and Native-led organizations. Through the CLN 3.0 project, we will explore ways to strengthen our members' capacity to build alliances with local Native American Tribes, organizations, and communities.

**Urban Biodiversity**: The CLN 3.0 project will explicitly incorporate urban biodiversity into its framework, recognizing the importance of urban ecosystems and green spaces. This approach spans the urbanrural continuum, bridges the baylands and uplands of the Bay Area, and involves diverse urban stakeholders, ensuring that regional conservation planning is not done apart from where the vast majority of people live.

**Wildfire Resilience**: Our evolving strategy integrates wildfire resilience, climate change science, and human stewardship more comprehensively. It emphasizes collaborative practices, incorporating traditional ecological knowledge and modern fire science to create resilient landscapes benefiting both ecosystems and human communities.

**Community-Driven Process:** CLN 3.0 will continue the legacy of the CLN project being driven by the conservation community expanding to include more and different voices than in the past. The CLN project's approach fosters ground-up solutions instead of top-down edicts. It recognizes that conservation decisions affect everyone and should be a collaborative effort, informed by scientific expertise, local knowledge, and real, on-the-ground needs.

As we face the challenges of the climate crisis, biodiversity loss, social inequities, and increasing wildfires, CLN 3.0 offers a prime opportunity to co-create a hopeful vision for the future of conservation in the Bay Area. By welcoming more and different perspectives, fostering inclusive partnerships, and recognizing the interconnectedness of urban and rural landscapes, we're charting a course for a thriving Bay Area with healthy lands, people, and communities.

# CONCLUSION

In 2019, CLN 2.0 set five bold regional goals to conserve the Bay Area's rich biodiversity and ecological communities. Reflecting on the progress made over the last five years, there is much to celebrate.

The Bay Area region has conserved more than 100,000 acres of priority lands, making significant headway toward our 50x50 goal. The region has now conserved 1,531,000 acres, or 32% of the terrestrial area of the Bay Area, which is 4.8 million acres. These efforts have safeguarded irreplaceable habitats, secured critical wildlife corridors, and conserved essential watershed and headwater areas. The impact is tangible: mountain lions, badgers, and bobcats can roam more freely. Native salmon have additional miles of conserved streams to swim in. And untold numbers of animal and plant species continue to thrive in their endemic, life-sustaining habitats. These critical gains are ensuring healthy, resilient ecoregions for the long term.

The CLN 2.0 has not only guided regional conservation efforts but has also become an integral part of various conservation planning frameworks. Incorporation of the CLN into initiatives at the local and regional level — and its alignment with state-level plans — demonstrates the power of collaboration and the far-reaching impact of science-based conservation strategies.

As we look toward CLN 3.0, we are clear-eyed on the challenges and recognize that there is much work to do. Regional conservation coordination can be complex; climate threats loom large; human pressures on lands intensify; and some of the region's conservation targets remain stubbornly stagnant.

Hope is a key value that informs all of our work, including the next iteration of the CLN. The evolving landscape of conservation offers unprecedented opportunities for a diversity of voices at the table, an expanded vision of urban biodiversity and land stewardship, and fortified resilience in the face of wildfires and climate events. The CLN 3.0 project will meet this moment and strengthen the network effect of connected communities driving conservation together.

We also want to celebrate the progress that our region has made so far. Each acre conserved, each stream preserved, and each wildlife corridor secured is a victory for biodiversity and for the people of the Bay Area. The journey toward CLN 3.0 is an invitation to all of us — scientists, policymakers, and community members alike — to participate in shaping a resilient, biodiverse, and thriving Bay Area for generations to come.

## ACKNOWLEDGEMENTS

We would like to thank these organizations who provided updated conserved areas data that led to the 2024 BPAD update:

- Golden Gate National Recreation Area
- Contra Costa Flood Control & Water District
- The Wildlands Conservancy
- Midpeninsula Regional Open Space District
- Marin Agricultural Land Trust
- East Bay Regional Park District
- Land Trust of Napa County
- Those who contributed to the California Protected Areas Database 2024 update

#### **Funders**

We would like to thank the California State Coastal Conservancy for its generous support for the Conservation Lands Network and for the preparation of this report.

#### **Report Authors**

Jennifer Downey, Tom Robinson, Annie Burke

#### **Report Design**

Catherine Brozena of ColorThisWorld Communications

#### **Report Reviewers**

Peter Cowan, Mark Kalnins, Laura Rosenthal, Annie Burke, and Stuart Weiss.

#### **TOGETHER Bay Area Board Members**

- Melanie Parker, President
- Yakuta Poonawalla, Vice President
- Blanca Hernández, Secretary
- Lisa Baldinger, Treasurer
- Annie Burke
- Nicholas Calderon
- Shaun Horne
- Max Korten
- Lauren Korth
- Rebecca Johnson
- Valerie Lee
- Andrea Mackenzie

#### **TOGETHER Bay Area Team**

- Annie Burke, TOGETHER Bay Area Executive Director
- Jessica Little, Policy Lead
- Michaela Nee, Convening Coordinator
- Tom Robinson, Director of Conservation Strategy
- Laura Rosenthal, Engagement & Development Manager

We would like to thank GreenInfo Network for their partnership and collaboration on this report, including conducting the 2024 BPAD update and GIS overlay analyses.

## GLOSSARY

**Bay Area**: For the purposes of the Upland Habitat Goals Conservation Lands Network, the Bay Area includes ten counties: the nine that touch the San Francisco Bay, along with Santa Cruz County.

**Conservation Lands Network (CLN)**: a regional land conservation strategy for the San Francisco Bay Area that is updated periodically and facilitated by TOGETHER Bay Area.

**CLN project**: the process and community that creates the content of the CLN through a science-based, highly collaborative process.

**CLN regional goals**: the five goals articulated in CLN 2.0 including conserving 50% of Bay Area lands by 2050.

**CLN habitat specific goals**: the 2000+ goals that are set by focus teams for specific habitat types. See CLN 2.0 Report Appendix B and Appendix C.

**CLN definition of conserved lands**: conserved lands are natural and working lands owned in fee title or conserved through an agricultural or conservation easement for the purposes of conservation.

**CLN community**: the people who are assembled on a somewhat regular basis to update the CLN through the CLN project.

**CLN tools**: the products the CLN project creates and maintains and updates to help CLN users achieve their organization's goals and the CLN's goals.

**CLN users:** the people who use the CLN. Includes researchers, academics, consultants, land conservation practitioners, private funders, public grant making agencies, other regional habitat goal setting projects like Baylands and Subtidal.

**Landscape resilience**: The ability of a landscape to sustain desired ecological functions, robust native biodiversity, and critical landscape processes over time, under changing conditions, and despite multiple stressors and uncertainties (from Beller et al. 2018).

**Landscape unit**: A geographic division of the Conservation Lands Network study area; developed by the project team to create spatially coherent units that are based on physiographic features such as mountain ranges and valley bottoms.

**Viewshed analysis**: A viewshed analysis is a spatial technique that determines the visible areas from a specific observation point, considering terrain and landscape features.

