Appendix 1 – Methodology

2025 Progress Report:
Nature-Based Solutions
Climate Targets

January 29, 2026

Background

This document is a technical appendix to the 2025 Progress Report: Nature-Based Solutions (NBS) Climate Targets, required under Assembly Bill (AB) 1757 (2022, C. Garcia). This appendix is intended to assist readers in understanding how the reported progress toward each NBS climate target was estimated and to identify gaps in reporting.

The following list includes notes to the reader on California's first progress report towards its NBS climate targets:

- Implementation reporting for this progress update is primarily drawn from existing statewide implementation databases, including those described in the 2025 Progress Report.
- Where feasible, relevant State programs were consulted individually to obtain additional implementation data that are not currently captured in existing statewide systems.
- Because this effort relies heavily on State reporting pathways, the reported numbers primarily reflect State-funded or State-implemented NBS. NBS activities that are implemented outside of these funding and management programs are highly underrepresented for many of the NBS climate targets in this report. Notable exceptions to this include data from the 30x30 Conserved Areas dataset and the California Wildfire & Landscape Resilience Interagency Treatment Tracker Database (ITS).
- Because the NBS climate targets reflect the total level of collective climate action needed across California's lands—regardless of land ownership, management, or funding source—this report highlights the need to integrate more non-State data across more targets going forward. This is especially the case for restoration of forests, shrublands and chaparral, grasslands, and sparsely vegetated lands; healthy soils practices; oak woodland afforestation; and urban and community greening.
- This reporting effort highlights the need for increased use of and coordination between existing tracking systems to ensure a more comprehensive and integrated picture of NBS implementation across the state.
- Unless otherwise noted, this report is focused on activities implemented and projects completed from the calendar years 2022 through 2024. One exception is data reported from the California Climate Investments Reporting and Tracking System (CCIRTS) database, which reports projects as "implemented" when an agency has committed funds to a known recipient for a project with a defined location and attributable benefits.
- In most cases, total implementation between 2022 and 2024 has been averaged across years to present the clearest comparison to those targets which are represented as acres per year, and to account for interannual variability. Additionally, many projects currently report on implementation at project or grant close rather than activities completed per year. Going forward, it will be important to work with programs to collect completed activities by year to improve accuracy.
- Some newer State programs (e.g., Governor's Office of Land Use and Climate Innovation's Extreme Heat and Community Resilience Program and the California Natural Resources Agency's Tribal Nature-Based Solutions Program) are executing or have recently executed agreements for their first round of projects and thus do not have

completed activities to report for the 2022–2024 reporting period. These programs will be included in the next progress report.

- Reported conservation acreage results reflect new land conservation and improved conservation data collection through 30x30. We are unable to determine whether these acres were newly conserved during the 2022–2024 reporting period, or newly reported, but previously conserved.
- The forests, shrublands and chaparral, grasslands, and wetlands conservation targets were calculated based on data tied to a subset of these land types. For example, the forest conservation target was based on old growth forests. Where possible, further analysis was done to understand conservation of these subsets, but in other cases, an approach to defining and mapping these subsets will be needed.
- Numerous State efforts are currently underway to develop new remote sensing and other data products that will enhance the scope and accuracy of future NBS reporting.
- While efforts were made to avoid double counting, there may be instances where activities were unknowingly accounted for one than once either because a project was reported into multiple databases without common identifiers or in cases where multiple funders of the same project each reported on the same project without common identifiers.

Contents

Wildfire Risk Reduction Targets

Acreage Targets

Nature-Based Solution (activity acres[1]/year)	2030	2038	2045
Beneficial Fire • Prescribed broadcast burning, cultural burning, planned managed fire, planned treatment burned in wildfire[2]	800K	1.2M	1.5M
Other Fuel Reduction Activities • Thinning, invasive species removal, prescribed herbivory (grazing), mechanical treatments (first entry and retreatments), and uneven-aged timber harvest	700K	800K	1M
TOTAL activity acres/year	**1.5M**	**2M**	**2.5M**

Beneficial Fire

Data sources and approach used to estimate progress

Data sources used:

- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database version 2.0 (ITS)

This analysis calculates the total area of beneficial fire activities completed in 2022, 2023, and 2024 (Calendar Year = 2022, 2023, or 2024). Only implemented activities were counted: in ITS, CNRA activities (Agency = CNRA) with Activity Status = Active or Complete indicates these activities have been implemented, while for activities outside of CNRA (Agency ≠ CNRA), only Activity Status = Complete indicates these activities have been implemented.

The following activities were counted across ITS polygon, line, and point data layers:

- All activities where Activity Category = Prescribed Fire and that are counted toward the Million Acre Strategy (Counts_To_MAS = Yes), except for the Pile Burning activity which was under the Other Fuels Reduction Activities target. To learn more about what activities are included in this activity category and how they are defined, please see the ITS System Framework and Data Dictionary.

Acres were summed for the above activities (sum of Activity Quantity where Activity Units = Acres).

Estimate of progress

Acres of beneficial fire were 63,007 in 2022, 170,636 in 2023, and 142,147 in 2024, averaging 125,263 acres per year across all three years.

The NBS Wildfire Risk Reduction targets use slightly different methods and categories than those used by the Interagency Treatment Dashboard. Notably, NBS reporting counts pile burning toward the Other Fuel Reduction Activities target rather than toward the Beneficial Fire

[1] Activity acres track every treatment action, including those that occurred in sequence on the same acre over time. For example, a thinning project may have been conducted on an acre prior to a prescribed burn.

[2] Includes first entry and maintenance burning, does not include any acres from wildfires where suppression is the primary objective.

target. As a result, acres of progress reported for Beneficial Fire will be consistently lower than those reported in the ITS reports for Prescribed Fire.

Limitations and future reporting improvements
Managed wildfire is underrepresented in ITS because it currently only tracks acres on U.S. Forest Service land where prescribed fire work was planned and the desired outcomes of the work were achieved via wildfire rather than the originally planned treatment.

Reporting on beneficial fire implementation will continue to improve as the use of ITS evolves and expands. As more entities and programs contribute data and specific activity information—especially with spatially accurate information—and with continued development of data quality assurance and quality control (QA/QC) processes and data interoperability, the database will provide a more complete and precise picture of statewide efforts. Furthermore, continued coordination between NBS, ITS, and other reporting efforts will help to align activities and reporting categories, and to clarify differences where necessary.

Other Fuel Reduction Activities

Data sources and approach used to estimate progress
Data sources used:

- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database version 2.0 (ITS)

This analysis calculates the total area of other fuels reduction activities completed in 2022, 2023, and 2024 (Calendar Year = 2022, 2023, or 2024). Only implemented activities were counted: in ITS, CNRA activities (Agency = CNRA) with Activity Status = Active or Complete indicates these activities have been implemented, while for activities outside of CNRA (Agency ≠ CNRA), only Activity Status = Complete indicates these activities have been implemented. To learn more about what activities are included in these activity categories and how they are defined, please see the ITS System Framework and Data Dictionary.

The following activities were counted across ITS polygon, line, and point data layers:

- All activities where Activity Category = Targeted Grazing, Mechanical and Hand Fuels Reduction, or Timber Harvest and that are counted toward the Million Acre Strategy (Counts_To_MAS = Yes).
- All activities where Activity Description = Pile Burning and that are counted toward the Million Acre Strategy (Counts_To_MAS = Yes)

Acres were summed for the above activities (sum of Activity Quantity where Activity Units = Acres).

Estimate of progress
Acres of other fuels reduction activities were 680,260 in 2022, 819,973 in 2023, and 769,775 in 2024, averaging 756,669 acres per year across all three years.

The NBS Wildfire Risk Reduction targets use slightly different methods and categories than those used by the Interagency Treatment Dashboard. Notably, NBS reporting counts pile burning toward the Other Fuel Reduction Activities target rather than toward the Beneficial Fire target. As a result, acres of progress reported for Beneficial Fire will be consistently lower than those reported in the ITS reports for Prescribed Fire.

Limitations and future reporting improvements

ITS currently includes limited reporting on vegetation management being done by utility companies, California Native American tribes, local governments, and other organizations not supported by State or federal resources.

Reporting on other fuels reduction implementation will continue to improve as the use of ITS evolves and expands. As more entities and programs contribute data and specific activity information—especially with spatially accurate information—and with continued development of QA/QC processes and data interoperability, the database will provide a more complete and precise picture of statewide efforts. Furthermore, continued coordination between NBS, ITS, and other reporting efforts will help to align activities and reporting categories, and to clarify differences where necessary.

Forests

Acreage Targets

Nature-Based Solution (acres/year)	2030	2038	2045
Oak woodland afforestation (adding trees) • Oak woodland re-establishment in areas where they historically were found	52.9K	52.9K	52.9K
Forest conservation • Conserve old growth forests to preserve the oldest trees • Conserve conifer, riparian, and oak woodland forests	55.1K	55.1K	55.1K
Forest restoration • Post high severity fire reforestation and restoration • Restore health of degraded oak woodlands by enhancing riparian zones	322.1K	462.1K	322.1K
Working forest conservation • Extend harvest rotation lengths • Shift intensity of harvests • Restore and/or conserve wildlife habitat	165.2K	165.2K	165.2K
TOTAL acres/year	**595.3K**	**735.3K**	**595.3K**

Percentage Targets

Nature-Based Solution (percentage)	2030	2038	2045
Decreased illegal forest conversion and degradation • Decrease the rate of illegal conversion and forest degradation by:	20%	50%	90%
Reduced high severity wildfire • Through beneficial fire and other fuel reduction activities, shift the proportion of statewide high severity wildfire to low or moderate severity wildfire such that the total percentage of low to moderate severity wildfire is:	75%	83%	90%

Oak Woodland Afforestation (adding trees)

Data sources and approach used to estimate progress
Currently, no statewide implementation databases track implementation as explicitly oak woodland afforestation.

Estimate of progress
State programs do not currently track oak woodland afforestation as an explicit management activity or project type and therefore no estimate of progress can be made at this time.

Limitations and future reporting improvements
Numerous State programs fund projects that may be oak woodland afforestation, but are not tracked in a way that allows them to be identified as such. For example, the CAL FIRE Forest Health Program funds active restoration and reforestation activities which may include the re-establishment of oaks woodlands, and the silviculture practice funded under the California Department of Food and Agriculture (CDFA)'s Healthy Soils Program could fund the re-establishment of oaks woodlands, however these project details are not currently collected.

Improvements to statewide tracking systems will be made to better track this work in the future.

Additionally, there is likely oak woodland afforestation and re-establishment happening independent of State funding or direct land management programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important oak woodland afforestation work happening across California.

Forest Conservation

Data sources and approach used to estimate progress
Data sources used:

- 30x30 Conserved Areas, Terrestrial (2022)
- 30x30 Conserved Areas, Terrestrial (2024)
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[3] (CARB 2025 Land Cover)

This approach looks at the difference in land protected with GAP 1, 2, or 3 status in 2024 compared to 2022 across forest land cover. To learn more about how GAP statuses are defined and assigned, please see the U.S. Geological Survey's GAP Status Code Assignment Assumptions, Criteria, and Methods. The 2022 and 2024 30x30 Conserved Areas incorporate the California Protected Areas Database (CPAD), the most comprehensive collection of data on open space in California, and the California Conservation Easement Database (CCED), which aggregates data on lands with conservation easements. CPAD and CCED are both managed by GreenInfo Network.

Change in all forest land conserved was estimated as the area where land cover type is forests (CARB 2025 Land Cover) with GAP 1, 2, or 3 status in 30x30 Conserved Areas, Terrestrial (2024) that did not have GAP 1, 2, or 3 status in 2022.

[3] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

Estimate of progress
From 2022 to 2024, 647,051 acres of forest land conservation were added via easements, permanent protections, management improvements, and/or data enhancements. The average across these two years of reporting is 323,526 acres per year.

Limitations and future reporting improvements
These results reflect new land conservation and improved conservation data collection through 30x30. We are unable to determine whether these acres were newly conserved during the 2022–2024 reporting period, or newly reported, but previously conserved.

These results show conservation of all forest land, which is more comprehensive than how the NBS climate targets for forest conservation were calculated. The forest conservation NBS climate targets were calculated based on protection of old growth forests, using aspatial acreage estimates of old growth throughout the state. However, old growth is defined variably by region and forest type[4] and no updated statewide mapping of old growth forests is currently available to measure progress against this target. The U.S. Forest Service has done recent work to quantify old growth forests on Forest Service land,[5] which may serve as a starting point to mapping old growth forests across California for future reporting.

Forest Restoration

Data sources and approach used to estimate progress
Data sources used:

- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database (ITS) V1.1
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[6] (CARB 2025 Land Cover)
- California State Coastal Conservancy implemented project, 2022–2024

This analysis calculates the total area of forest restoration activities completed in 2022, 2023, and 2024 (Calendar Year = 2022, 2023, or 2024). Only implemented activities were counted: in ITS, CNRA activities (Agency = CNRA) with Activity Status = Active or Complete indicates these activities have been implemented, while for activities outside of CNRA (Agency ≠ CNRA), only Activity Status = Complete indicates these activities have been implemented.

The following activities were counted from the ITS polygon data layer:

- Activities where Activity Category = Tree Planting and are counted toward the Million Acre Strategy (Counts_To_MAS = Yes). Acres of tree planting activities were counted where activity polygons were on forest, grassland, sparsely vegetated lands, miscellaneous wildland urban, and shrubland (CARB 2025 Land Cover). It was assumed that the tree planting activities were describing reforestation activities and should take precedence over the identified land cover type.
- Where any of the following activity polygons were on forest land (CARB 2025 Land Cover):
    - Ecosystem or Habitat Restoration
    - Habitat Revegetation

[4] Gray, A. N., et al. 2023. Perspectives: The wicked problem of defining and inventorying mature and old-growth forests. Forest Ecology and Management. 546: 121350.
[5] Pelz, K. A., et al. 2023. Quantifying old-growth forest of United States Forest Service public lands. Forest Ecology and Management. 549: 121437.
[6] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

- Invasive Plant Removal
- Oak Woodland Management
- Road Obliteration
- Stream Channel Improvement

The following activities were counted from the ITS points and lines data layers:

- All activities where Activity Category = Tree Planting and are counted toward the Million Acre Strategy (Counts To MAS = Yes). Tree planting by timber companies following harvest does not count towards the Million Acre Strategy and therefore was not counted in this analysis. The sum of activity units was counted where activities were reported in acres.

To learn more about what activities are included in these activity categories and how they are defined, please see the ITS System Framework and Data Dictionary.

In addition to ITS data, the California State Coastal Conservancy provided data on projects funded that were identified as forest restoration completed in 2022 through 2024, and these were added to the total.

Estimate of progress
Acres of forest restoration activities were 146,394 in 2022, 167,175 in 2023, and 251,993 in 2024, averaging 188,521 acres per year across all three years.

Limitations and future reporting improvements
Future restoration needs are expected to be driven primarily by large-scale high-severity wildfire. As progress towards the wildfire risk reduction targets is made, the overall need for reforestation is expected to decline, as reflected by the lower forest restoration target for 2045 relative 2038. Work is ongoing to enable annual tracking of restoration needs alongside restoration activities, so that progress can be evaluated in the context of ongoing and emerging needs.

Reporting on forest restoration implementation will continue to improve as the use of ITS evolves and expands. As more entities and programs contribute data and specific activity information—especially with spatially accurate information—and with continued development of QA/QC processes and data interoperability, the database will provide a more complete and precise picture of statewide efforts.

Furthermore, there is likely significant forest restoration happening independent of State funding or direct land management programs that is not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important forest restoration work happening across the state.

Working Forest Conservation

Data sources and approach used to estimate progress
Data sources used:

- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database version 2.0 (ITS)
- California Air Resources Board Offset Credit Issuance (CARB offsets)

This analysis calculates the total area of working forest conservation activities completed in 2022, 2023, and 2024 (Calendar Year = 2022, 2023, or 2024). Only implemented activities were counted: in ITS, CNRA activities (Agency = CNRA) with Activity Status = Active or Complete

indicates these activities have been implemented, while for activities outside of CNRA (Agency ≠ CNRA), only Activity Status = Complete indicates these activities have been implemented.

The sum of reported acres of following activities was calculated (to learn more about what activities are included in these activity categories and how they are defined, please see the ITS System Framework and Data Dictionary):

- Oak Woodland Management
- Rehabilitation of Understocked Area
- Single Tree Selection
- Transition Harvest
- Variable Retention Harvest

In addition, any "improved forest management" CARB offset projects that were new during the period of 2022–2024 (having their first reporting period ending in 2022, 2023, or 2024) and that are based in California were counted. One CARB offset project met these criteria. To avoid double counting, it was verified that the footprint of this project does not overlap with any of the above working forest conservation activities reported in ITS.

Estimate of progress
Acres of working forest conservation activities reported in ITS were 21,091 in 2022, 26,790 in 2023, and 31,584 in 2024. The one new "improved forest management" CARB offset during this time period totaled 12,071 acres. The combined annual average is 30,512 acres per year across all three years.

Limitations and future reporting improvements
Reporting on working forest conservation implementation will continue to improve as the use of ITS evolves and expands. As more entities and programs contribute data and specific activity information—especially with spatially accurate information—and with continued development of QA/QC processes and data interoperability, the database will provide a more complete and precise picture of statewide efforts.

Decrease Illegal Forest Conversion and Degradation

Data sources and approach used to estimate progress
Prospective data sources:

- CAL FIRE Forest Practice
- California Natural Resources Agency (CNRA)'s Timber Regulation and Forest Restoration Program remote sensing data products (in development)

Estimate of progress
Developing a methodology to quantify progress.

Limitations and future reporting improvements
Unlike many of the NBS climate targets that are in units of acres per year, the illegal forest conversion and degradation target is expressed as a percent change compared to a baseline. Currently, data on illegal forest conversion and degradation is insufficient to establish a robust baseline against which to measure progress towards this target.

By 2027, CNRA's Timber Regulation and Forest Restoration Program will work to develop a methodology for quantifying illegal forest conversion and degradation statewide using data

from the CAL FIRE Forest Practice Program and remote sensing products that are currently in development under the leadership of CNRA's Timber Regulation and Forest Restoration Program.

This methodology will serve to establish a statewide baseline for illegal forest conversion and degradation and to consistently track progress against this baseline into the future.

Reduced High Severity Wildfire

Data sources and approach used to estimate progress
Data source used:

- CAL FIRE's California Vegetation Burn Severity Data, fire data provided for 2022–2024
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[7] (CARB 2025 Land Cover)

This analysis is based on the Composite Burn Index (CBI) of fires in California from 2022–2024 on forest land (CARB 2025 Land Cover).

Fires for each year were merged into a single annual layer (CAL FIRE California Vegetation Burn Severity Data). For each year, the area of unchanged (CBI from 0 to < 0.1), low severity (CBI from 0.1 to <1.25) and moderate severity (CBI from 1.25 to <2.25) was divided by total area of burned forest (unchanged, low severity, moderate severity, and high severity with CBI from 2.25 to 3).

Estimate of progress
The percent low to moderate severity wildfire was 72%, 64%, and 63% in 2022, 2023, and 2024 respectively. The simple average of annual percentages is 66% across all three years.

Limitations and future reporting improvements
CAL FIRE's ongoing maintenance and further development of this dataset will enable continued and improved tracking of progress over time.

Shrublands and Chaparral

Acreage Targets

Nature-Based Solution (acres/year)	2030	2038	2045
Shrublands and Chaparral Conservation • Conserve chaparral and shrublands, with a focus on old growth and undeveloped areas	104.6K	104.6K	104.6K
Shrublands and Chaparral Restoration • Restore chaparral and shrublands, with a focus on addressing threats from invasive species and fire; post-disturbance restoration; transitional zones; enhancing native vegetation; and re-establishing wildlife connectivity	37K	40K	45K
TOTAL acres/year	**141.6K**	**144.6K**	**149.6K**

[7] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

Shrublands and Chaparral Conservation

Data sources and approach used to estimate progress
Data sources used:

- 30x30 Conserved Areas, Terrestrial (2022)
- 30x30 Conserved Areas, Terrestrial (2024)
- Chaparral and Coastal Sage Scrub Fire-Induced Age Classes 2023[8]

This approach looks at the difference in land protected with GAP 1, 2, or 3 status in 2024 compared to 2022 across shrublands and chaparral land cover types. To learn more about how GAP statuses are defined and assigned, please see the U.S. Geological Survey's GAP Status Code Assignment Assumptions, Criteria, and Methods. The 2022 and 2024 30x30 Conserved Areas datasets incorporate the California Protected Areas Database (CPAD), the most comprehensive collection of data on open space in California, and the California Conservation Easement Database (CCED), which aggregates data on lands with conservation easements. CPAD and CCED are both managed by GreenInfo Network.

Conservation of all shrublands and chaparral land was estimated as the area of all age classes identified by Chaparral and Coastal Sage Scrub Fire-Induced Age Classes 2023 with GAP 1, 2, or 3 status in 30x30 Conserved Areas, Terrestrial (2024) that did not have GAP 1, 2, or 3 status in 2022.

Conservation of old growth shrublands and chaparral was estimated as the area of "Very Old Growth" and "Old Growth" age classes identified by Chaparral and Coastal Sage Scrub Fire-Induced Age Classes 2023 with GAP 1, 2, or 3 status in 30x30 Conserved Areas, Terrestrial (2024) that did not have GAP 1, 2, or 3 status in 2022. Conservation of old growth shrublands and chaparral was estimated as the NBS climate targets for shrublands and chaparral conservation were calculated based on this subset of shrublands and chaparral.

Estimate of progress
From 2022 to 2024, 277,192 acres of all shrublands and chaparral land conservation and 129,418 acres of old growth shrubland and chaparral were added via easements, permanent protections, management improvements, and/or data enhancements. The average across these two years of reporting is 138,596 acres per year of all shrublands and chapparal and 64,708 acres per year of old growth shrublands and chaparral.

Limitations and future reporting improvements
These results reflect new land conservation and improved conservation data collection through 30x30. We are unable to determine whether these acres were newly conserved during the 2022–2024 reporting period, or newly reported, but previously conserved.

The Chaparral and Coastal Sage Scrub Fire-Induced Age Classes 2023 data used for this analysis was derived from CAL FIRE's FVEG product[9], while other conservation target analyses were based on California Air Resources Board Nature Based Strategies Section 2022 Land Cover Map, which uses LANDFIRE data[10] as its foundation. FVEG and LANDFIRE use different approaches and time scales to land cover mapping, and therefore the shrublands and chaparral extents used in this analysis are different than the shrublands and chaparral extents mapped by the California

[8] Lunneberg, K. et al. 2023. Drivers of chaparral photosynthetic rate reduction under modern drought conditions. Environmental Research: Ecology. 2: 035006.
[9] CALFIRE FRAP. Vegetation (fveg)[ds1327].
[10] U.S. Department of the Interior, Geological Survey, and U.S. Department of Agriculture. LANDFIRE data.

Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover.

Reporting on old growth shrubland and chaparral conservation in the future will require that these data be updated as new fire and land cover data become available.

Shrublands and Chaparral Restoration

Data sources and approach used to estimate progress
Data sources used:

- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database version 2.0 (ITS)
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[11] (CARB 2025 Land Cover)
- California Wildlife Conservation Board's Climate Adaptation and Resiliency Program and Habitat Enhancement and Restoration Program, 2022–2024
- California State Coastal Conservancy implemented projects 2022–2024
- Coachella Valley Mountains Conservancy implementation data 2022–2024

This analysis calculates the total area of shrublands and chaparral restoration activities completed in 2022, 2023, and 2024 (Calendar Year = 2022, 2023, or 2024). Only implemented activities were counted: in ITS, CNRA activities (Agency = CNRA) with Activity Status = Active or Complete indicates these activities have been implemented, while for activities outside of CNRA (Agency ≠ CNRA), only Activity Status = Complete indicates these activities have been implemented.

The following activities were counted:

Activity Description =
- Ecosystem or Habitat Restoration
- Habitat Revegetation
- Invasive Plant Removal
- Road Obliteration
- Stream Channel Improvement

The polygons of the above activities were used to determine the area of shrublands (CARB 2025 Land Cover) impacted by these activities. To learn more about what activities are included in these activity categories and how they are defined, please see the ITS System Framework and Data Dictionary.

In addition to ITS data, the Wildlife Conservation Board's Climate Adaptation and Resiliency Program and Habitat Enhancement and Restoration Program, the California State Coastal Conservancy, and the Coachella Valley Mountains Conservancy provided data on projects funded that were identified as shrublands and chaparral restoration completed in 2022 through 2024, and these were added to the total.

Estimate of progress
From 2022–2024, and average of 3,228 acres per year of shrublands and chapparal restoration activities were implemented.

[11] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

Limitations and future reporting improvements
Reporting on shrublands and chaparral restoration implementation will continue to improve as the use of statewide reporting systems evolves and expands. As more entities and programs contribute data—especially with spatially accurate information and specific activity information—and with continued development of QA/QC processes and data interoperability, the database will provide a more complete and precise picture of statewide efforts.

Furthermore, there is likely significant shrublands and chapparal restoration happening independent of State funding or direct land management programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important shrublands and chaparral restoration work happening across the state.

Grasslands

Acreage Targets

Nature-Based Solution (acres/year)	2030	2038	2045
Grasslands Conservation • Protect grasslands with a focus on remaining native grasslands, oak trees, and foothill pines	33K	33K	33K
Grasslands Restoration • Restore degraded grasslands to native vegetation communities and diverse, perennial, deep-rooted grasses; soil amendments and prescribed grazing in line with the NWL Climate Smart Strategy; re-establishing a sustainable fire regime; riparian restoration	55.1K	55.1K	55.1K
TOTAL acres/year	**88.1K**	**88.1K**	**88.1K**

Grasslands Conservation

Data sources and approach used to estimate progress
Data sources used:

- 30x30 Conserved Areas, Terrestrial (2022)
- 30x30 Conserved Areas, Terrestrial (2024)
- California Williamson Act Enrollment 2022
- California Williamson Act Enrollment 2024
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[12] (CARB 2025 Land Cover)
- California Department of Fish and Wildlife's (CDFW) Areas of Conservation Emphasis Terrestrial Connectivity 2025 (ACE Terrestrial Connectivity 2025)

This approach looks at the difference in land protected with GAP 1, 2, or 3 status in 2024 compared to 2022 across grasslands. To learn more about how GAP statuses are defined and assigned, please see the U.S. Geological Survey's GAP Status Code Assignment Assumptions, Criteria, and Methods. The 2022 and 2024 30x30 Conserved Areas datasets incorporate the California Protected Areas Database (CPAD), the most comprehensive collection of data on

[12] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

open space in California, and the California Conservation Easement Database (CCED), which aggregates data on lands with conservation easements. CPAD and CCED are both managed by GreenInfo Network.

Conservation of all grasslands was estimated as the area identified as grassland (CARB 2025 Land Cover) with GAP 1, 2, or 3 status in 30x30 Conserved Areas, Terrestrial (2024) that did not have GAP 1, 2, or 3 status in 2022.

The grassland conservation target was calculated based on conservation of "intact grasslands." While no statewide definition currently exists, intact grasslands refer to grasslands that deliver climate change and biodiversity benefits, such as native grasslands and grasslands that contribute to habitat connectivity.

Because no authoritative definition or delineation of intact grasslands specific to California exists, ACE Terrestrial Connectivity 2025 was used as a proxy to identify grasslands in the CARB 2025 Land Cover map with ACE Rank 5, "Irreplaceable and Essential Corridors." Conservation of these grasslands was estimated as the area with GAP 1, 2, or 3 status in 30x30 Conserved Areas, Terrestrial (2024) that did not have GAP 1, 2 or 3 status in 2022.

An additional analysis looked at the difference in grassland area under active Williamson Act status in 2024 compared to 2022. To learn more about the Williamson Act, please see the California Department of Conservation's Williamson Act Program. For this analysis, areas with GAP 1, 2, 3, or 4 status in 30x30 Conserved Areas, Terrestrial (2024) were excluded to avoid double counting.

Change in grasslands with Williamson Act status was estimated as the area where land cover type is grassland (CARB 2025 Land Cover) with Williamson Act types "FSZ (Farmland Security Zone)," "Prime," "Nonprime," and "Mixed" in California Williamson Act Enrollment 2024 that did not have Williamson Act types "FSZ," "Prime," "Nonprime," and "Mixed" status in 2022. Williamson Act type "Nonrenewal" was not counted. Lake, Lassen, Modoc, Mono, Orange, Sierra, and Sonoma counties did not report Williamson Act data in either 2022 or 2024, and were excluded from this analysis. Alpine, Del Norte, Imperial, Inyo, Los Angeles, San Francisco, and Yuba counties were not participating in Williamson Act in either 2022 or 2024, and were excluded from this analysis. Merced County only reported partial Williamson Act data in 2022 and was excluded from this analysis.

Because Williamson Act is a non-permanent status, some lands went out of Williamson Act during this time period. These acres were subtracted from the acres of grassland that gained Williamson Act status during this time period.

The same Williamson Act analysis was done for grasslands with ACE Terrestrial Connectivity Rank 5 as a proxy for intact grasslands.

Estimate of progress

From 2022 to 2024, 501,090 acres of all grasslands and 128,827 acres of intact grasslands were added via easements, permanent protections, management improvements, and/or data enhancements, or 250,545 acres per year of all grasslands and 64,434 acres per year of intact grasslands.

From 2022 to 2024, a net of 10,077 acres of all grasslands lost Williamson Act status. Of these, a net of 1,297 acres of intact grasslands lost Williamson Act status. The average across these two

years of reporting is 5,039 acres per year of all grasslands losing Williamson Act status and 649 acres per year of intact grasslands losing Williamson Act status.

Limitations and future reporting improvements
These results reflect new land conservation and improved conservation data collection through 30x30. We are unable to determine whether these acres were newly conserved during the 2022–2024 reporting period, or newly reported, but previously conserved.

The analysis of intact grasslands conserved used ACE Terrestrial Connectivity rankings as a proxy which emphasizes grasslands that contribute to habitat connectivity but does not include the presence of native grassland species or importance for climate change mitigation and resilience. Future reporting on this target will require development of a methodology to define and map intact or priority grasslands for conservation.

Ultimately, what is considered "intact grasslands" or, even more broadly, what might be considered high-priority grasslands for conservation, will depend on many ecological, social, and local factors. Future reporting will consider how to refine "intact grasslands" in the context of NBS climate target reporting.

Grasslands Restoration

Data sources and approach used to estimate progress
Data sources used:

- California Department of Food and Agriculture (CDFA) Healthy Soils Program, 2022–2024 implementation data
- California Wildlife Conservation Board's California Riparian Habitat Conservation Program and Monarch Butterfly and Pollinator Rescue Program, 2022–2024
- U.S. Department of Agriculture Natural Resources Conservation Service's Soil and Water Resources Conservation Act (USDA NRCS RCA) Data Viewer, 2022–2023
- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database version 2.0 (ITS)
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[13] (CARB 2025 Land Cover)

Practices implemented in 2022–2024 through the CDFA Healthy Soils Program on grazing lands were counted using the following assumptions:

- Activities counted as healthy soils practices can be found at the CDFA Healthy Soils Program website.
- Reported acres are any instance of a practice being implemented. For some rangeland practices under the CDFA Healthy Soils Program, such as prescribed grazing and compost application, a practice is implemented annually on the same field for three years. For these practices, each year of implementation was counted.
- Woody planting projects are implemented only once, but it was assumed that annual maintenance on these plantings would be performed through the end of the grant term (consecutive remaining years left on grant). For these practices, each year of planting and maintenance was counted.
- Occasionally, practices were implemented twice in the same calendar year. In these cases, both implementations were counted.

[13] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

- In some cases, reported data prevented determining whether the practice was implemented on cropland or grazing land. These acres, amounting to less than 1% of total acres, were not counted.
- Linear planting practices reported in linear feet were converted to acres, assuming a width of 8 feet.

From the USDA NRCS RCA Data Viewer, implementation acreage was summed across 2022 and 2023 for Environmental Quality Incentives Program (EQIP) and the Regional Conservation Partnership Program (RCPP) programs for practices where land use is indicated as rangeland, including the following practices:

- Soil Carbon Amendment
- Critical Area Planting
- Silvopasture
- Riparian Forest Buffer
- Hedgerow Planting
- Mulching
- Pasture and Hay Planting
- Prescribed Grazing
- Range Planting
- Upland Wildlife Habitat Management

To learn more about how these practices are defined, please see the USDA NRCS' Conservation Practice Standards.

The Wildlife Conservation Board's California Riparian Habitat Conservation Program and Monarch Butterfly and Pollinator Rescue Program provided data on projects funded that were identified as grassland restoration completed in 2022 through 2024, and these were added to the total.

Additionally, the area of restoration activities reported in ITS that fell on grasslands (defined by CARB 2025 Land Cover) were counted. This analysis calculates the total area of grassland restoration activities completed in 2022, 2023 and 2024 (Calendar Year = 2022, 2023 or 2024). Only implemented activities were counted: in ITS, CNRA activities (Agency = CNRA) with Activity Status = Active or Complete indicates these activities have been implemented, while for activities outside of CNRA (Agency ≠ CNRA), only Activity Status = Complete indicates these activities have been implemented.

- The following activities were counted:
    - Ecosystem or Habitat Restoration
    - Habitat Revegetation
    - Invasive Plant Removal
    - Oak Woodland Management
    - Road Obliteration
    - Stream Channel Improvement
- The polygons of the above activities were used to determine the area of grassland (CARB 2025 Land Cover) impacted by these activities. To learn more about what activities are included in these activity categories and how they are defined, please see the ITS System Framework and Data Dictionary.

Estimate of progress
From 2022–2024, and average of 73,517 acres per year of grassland restoration activities were implemented.

Limitations and future reporting improvements
These results are driven in large part by significant acres of prescribed grazing reported by NRCS in both 2022 and 2023. 2024 implementation data are not yet available from the USDA NRCS RCA Data Viewer. These acres are reported as occurring on rangeland (lands used for grazing). The NRCS database does not provide precise treatment location information, so these activities are assumed to occur on grasslands but this acreage could include land types other than grasslands that are also used for grazing, including some shrublands, forests, and sparsely vegetated lands.

Reporting on grasslands restoration implementation will continue to improve as the use of statewide reporting systems evolves and expands. As more entities and programs contribute data—especially with spatially accurate information and specific activity information—and with continued development of QA/QC processes and data interoperability, the database will provide a more complete and precise picture of statewide efforts

Furthermore, there is significant grasslands restoration happening independent of State funding and direct land management programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important grasslands restoration work happening across the state.

Croplands

Acreage Targets

Nature-Based Solution (acres/year)	2030	2038	2045
Healthy Soils Practices on Croplands • Implement healthy soils practices on annual and perennial croplands, such as compost application, cover cropping, hedgerows/windbreaks, no and reduced till, riparian buffers, whole orchard recycling, etc.	140K	190K	190K
Croplands Conservation • Conserve annual and perennial croplands	12K	16K	19.5K
TOTAL acres/year	152K	206K	209.5K

Percentage Targets

Nature-Based Solution (percentage)	2030	2038	2045
Organic Cropland (percent of cropland) • Convert conventional to organic systems in annual and perennial croplands	10%	15%	20%

Healthy Soils Practices on Croplands

Data sources and approach used to estimate progress

Data sources used:

- California Department of Food and Agriculture (CDFA) Healthy Soils Program, 2022–2024 implementation data
- U.S. Department of Agriculture Natural Resources Conservation Service's Soil and Water Resources Conservation Act (USDA NRCS RCA) Data Viewer, 2022–2023
- California Wildlife Conservation Board's California Riparian Habitat Conservation Program and Monarch Butterfly and Pollinator Rescue Program, 2022–2024
- California Department of Pesticide Regulation's Sustainable Pest Management Grants Program, 2022–2024

Practices implemented in 2022–2024 through the CDFA Healthy Soils Program on croplands were counted using the following assumptions:

- Activities counted as healthy soils practices can be found at the CDFA Healthy Soils Program website.
- Reported acres are any instance of a practice being implemented. For many practices under the CDFA Healthy Soils Program, such as cover cropping, compost application, and reduced tillage, a practice is implemented annually on the same field for three years. For these practices, each year of implementation was counted.
- Woody planting projects are implemented only once, but it was assumed that annual maintenance on these plantings would be performed through the end of the grant term (consecutive remaining years left on grant). For these practices, each year of planting and maintenance was counted.
- Practices such as whole orchard recycling and mulching are only implemented once and do not have subsequent maintenance associated with them. For these practices, only the single year of implementation was counted.
- Occasionally, practices were implemented twice in the same calendar year. In these cases, both implementations were counted.
- In some cases, reported data prevented determining whether the practice was implemented on cropland or grazing land. These acres, amounting to less than 1% of total acres, were not counted.
- Linear planting practices reported in linear feet were converted to acres, assuming a width of 8 feet.

In addition, implemented acres reported through the USDA NRCS RCA Data Viewer were counted. Implementation acreage was summed across 2022 and 2023 for the Environmental Quality Incentives Program (EQIP) and the Regional Conservation Partnership Program (RCPP) for practices where land use is indicated as cropland, including the following practices:

- Conservation Cover
- Conservation Crop Rotation
- Residue and Tillage Management, No Till
- Soil Carbon Amendment
- Cover Crop
- Critical Area Planting
- Residue and Tillage Management, Reduced Till
- Windbreak/Shelterbelt Establishment and Renovation

- Riparian Herbaceous Cover
- Riparian Forest Buffer
- Filter Strip
- Stream Habitat Improvement and Management
- Wildlife Habitat Planting
- Hedgerow Planting
- Mulching
- Pasture and Hay Planting
- Nutrient Management
- Herbaceous Wind Barriers
- Tree/Shrub Establishment
- Windbreak/Shelterbelt Renovation
- Upland Wildlife Habitat Management

To learn more about how these practices are defined, please see the USDA NRCS' Conservation Practice Standards.

In addition, acres of healthy soils practices on croplands implemented through the Wildlife Conservation Board's California Riparian Habitat Conservation Program and Monarch Butterfly and Pollinator Rescue Program and the California Department of Pesticide Regulation's Sustainable Pest Management grants program were counted.

Estimate of progress
From 2022–2024, and average of 103,988 acres per year of cropland healthy soils practices were reported.

Limitations and future reporting improvements
2024 implementation data are not yet available from the USDA NRCS RCA Data Viewer.

Acres reported through the CDFA Healthy Soils Program included those that were also managed by participants of CDFA's Farm to School Program. All 2022 Food Producer Grantees of the Farm to School Program (excluding one hydroponic operation) reported using healthy soils practices, however we are unable to determine the acreage and implementation years exclusive to the Farm to School program at this time.

There is significant healthy soils cropland management happening independent of State funding programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important healthy soils work happening across the state.

Croplands Conservation

Data sources and approach used to estimate progress
Data sources used:

- 30x30 Conserved Areas, Terrestrial (2022)
- 30x30 Conserved Areas, Terrestrial (2024)
- California Williamson Act Enrollment 2022
- California Williamson Act Enrollment 2024

- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[14] (CARB 2025 Land Cover)

This approach looks at the difference in land protected in 2024 compared to 2022 across croplands identified as GAP code 1, 2, or 3. To learn more about how GAP statuses are defined and assigned, please see the U.S. Geological Survey's GAP Status Code Assignment Assumptions, Criteria, and Methods. The 2022 and 2024 30x30 Conserved Areas datasets incorporate the California Protected Areas Database (CPAD), the most comprehensive collection of data on open space in California, and the California Conservation Easement Database (CCED), which aggregates data on lands with conservation easements. CPAD and CCED are both managed by GreenInfo Network.

Change in croplands conserved was estimated as the area where land cover type is any of the croplands land cover types (CARB 2025 Land Cover) with GAP 1, 2, or 3 status in 30x30 Conserved Areas, Terrestrial (2024) that did not have GAP 1, 2, or 3 status in 2022.

An additional analysis looked at the difference in croplands under active Williamson Act status in 2024 compared to 2022. To learn more about the Williamson Act, please see the California Department of Conservation's Williamson Act Program. For this analysis, areas with GAP 1, 2, 3, or 4 status in 30x30 Conserved Areas, Terrestrial (2024) were excluded to avoid double counting.

Change in croplands with Williamson Act status was estimated as the area where land cover type is any of the croplands land cover types (CARB 2025 Land Cover) with Williamson Act types "FSZ (Farmland Security Zone)," "Prime," "Nonprime," and "Mixed" in California Williamson Act Enrollment 2024 that did not have Williamson Act types "FSZ," "Prime," "Nonprime," and "Mixed" status in 2022. Williamson Act type "Nonrenewal" was not counted. Lake, Lassen, Modoc, Mono, Orange, Sierra, and Sonoma counties did not report Williamson Act data in either 2022 or 2024, and were excluded from this analysis. Alpine, Del Norte, Imperial, Inyo, Los Angeles, San Francisco, and Yuba counties were not participating in Williamson Act in either 2022 or 2024, and were excluded from this analysis. Merced County only reported partial Williamson Act data in 2022 and was excluded from this analysis.

Because Williamson Act is a non-permanent status, some lands went out of Williamson Act during this time period. These acres were subtracted from the acres of croplands that gained Williamson Act status during this time period.

Estimate of progress

From 2022 to 2024, 113,086 acres of croplands conservation were added via easements, permanent protections, management improvements, and/or data enhancements. The average across these two years of reporting is 56,543 acres per year.

From 2022 to 2024, a net increase of 64,944 acres of croplands gained Williamson Act status. The average across these two years of reporting is 32,472 acres per year gaining Williamson Act status.

Limitations and future reporting improvements

These results reflect new land conservation and improved conservation data collection through 30x30. We are unable to determine whether these acres were newly conserved during the 2022–2024 reporting period, or newly reported, but previously conserved.

[14] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

The high rate of reported croplands conservation compared to the target suggests that the NBS target may be in need of revision.

Organic Cropland

Data sources and approach used to estimate progress
Data source used:

- California Department of Food and Agriculture (CDFA) California Agricultural Production Statistics (2020–2024 Statistics Reports and 2020–2024 Organics Reports)

Annual percentage of organic harvested acres compared to total statewide harvested acres was calculated for categories of reported commodities that are directly comparable. Harvested acres for reported commodities that could not be directly compared between organic and statewide were not used in the calculations (Table 1). Livestock commodities were not included.

Table 1. Percent of organic harvested acres vs. total harvested acres by comparable commodity category.

Commodity Category	2019	2020	2021	2022	2023
Broccoli	12%	13%	18%	19%	17%
Carrots	10%	32%	35%	38%	38%
Celery/Celeriac	15%	15%	26%	27%	23%
Lettuce	17%	22%	22%	23%	17%
Spinach	42%	58%	64%	55%	44%
Tomatoes	5%	5%	7%	6%	6%
Almonds	1%	2%	2%	3%	3%
Pome Fruit	20%	18%	20%	21%	22%
Strawberries	16%	17%	15%	16%	16%
All Other Berries	60%	39%	60%	66%	80%
Grapes	5%	5%	6%	7%	7%
All Other Nut Crops	2%	2%	2%	2%	2%
Citrus	8%	7%	8%	9%	9%
Stone Fruit	6%	10%	8%	9%	9%
Acre-weighted average across commodities:	**5.3%**	**6.2%**	**6.8%**	**7.3%**	**5.9%**

Data are reported in units of harvested acres, which means that crops which can be harvested multiples times in a year are over-represented compared to crops that are harvested one time per year. To account for these differences, a weighted average across commodity categories was calculated by using the proportion of harvested acres in each comparable commodity category compared to the sum of harvested acres across all comparable commodity categories.

Estimate of progress
The acre-weighted average across harvested acres of comparable commodities in 2023 was 5.9%.

Limitations and future reporting improvements

There are significant differences in the percentage of organic acreage across commodity categories. For some commodities like spinach and all other berries, over 50% of harvested acreage statewide is organic, while for other commodities like almonds and all other nut crops, less than 5% of harvested acreage statewide is organic.

Agriculture statistics for the year 2024 are not yet published.

Reporting on harvested acres, instead of field acres, may bias estimates towards crops that are harvested multiple times a year, although the weighted average should correct for this.

Future reporting approaches might be able to directly track field acres of organic and overall croplands, which would be a more direct way of estimating progress toward this target.

Developed Lands

Acreage Targets

Nature-Based Solution (acres/year)	2030	2038	2045
Afforestation (adding trees) Between Communities and Croplands • Establish tree line buffers between croplands and communities to reduce chemical exposure and enhance access to green space	133	185	230
Urban and Community Forest Conservation • Protect existing urban tree cover	17.3K	17.3K	17.3K
Urban and Community Greening and Forestry • Increase tree canopy cover in cities, communities, and schoolyards • Establish drought-tolerant vegetation, remove grass yards • Increase green space, such as parks, gardens, schoolyards, greenways/greenbelts, street trees, green roofs, rain gardens, etc.	34.7K	34.7K	34.7K
Reducing Community Wildfire Risks • Defensible space establishment on properties in the wildland urban interface area	11K	11K	11K
TOTAL acres/year	**63.1K**	**63.2K**	**63.2K**

Percentage Targets

Nature-Based Solution (percentage)	2030	2038	2045
Reduced Rate of Ignitions Caused by Vehicles • Decrease wildfire ignition incidents caused by vehicles by:	10%	20%	30%
Priority Roadside Treatment • Percentage of priority roads that function as primary evacuation routes treated:	50%	70%	100%

Additional Targets

Nature-Based Solution (trees planted/year)	2030	2038	2045
Urban and Community Tree Planting • Increase large canopied, drought-tolerant trees meaningful to the community; prioritize communities with low tree canopy	200K	200K	200K

Afforestation (adding trees) Between Communities and Croplands

Data sources and approach used to estimate progress
Data sources used:

- Shafter AB 617 Community Emissions Reduction Program: Vegetative Barriers, funded by the CARB Community Air Protection Program and administered by the San Joaquin Valley Air Pollution Control District
- South Central Fresno AB 617 Community Emissions Reduction Program: Vegetative Barriers, funded by the CARB Community Air Protection Program and administered by the San Joaquin Valley Air Pollution Control District

The Shafter AB 617 Community Emissions Reduction Program reported a total of 4.82 miles of vegetative barriers planted with 3,340 trees and shrubs from 2022 to 2024; and the South Central Fresno AB 617 Community Emissions Reduction Program reported a total of 2.3 miles of vegetative barriers planted with 78 trees and shrubs from 2022 to 2024. Length of vegetative barriers was converted into acres using an assumed width of 20 feet.

Estimate of progress
From 2022–2024, an estimated total of 17 acres of afforestation between communities and croplands were reported, averaging 6 acres per year.

Limitations and future reporting improvements
Currently, few State programs and no statewide implementation databases are tracking afforestation between communities and croplands as an identifiable activity. The Shafter and South Central Fresno AB 617 Community Emissions Reduction Programs, both administered by the San Joquin Valley Air Pollution Control District, have initiatives focused on vegetative barriers for the purpose of improving air quality and protecting communities from dust, chemicals, and odors.

Other state programs fund projects that may be aligned with this target, but are not tracked in such a way that allows them to be identified as such. For example, the windbreak and hedgerow establishment practices funded under the California Department of Food and Agriculture (CDFA)'s Healthy Soils Program could be planted between communities and croplands, however these project details are not currently collected. Another program aligned with this target, the California Department of Pesticide Regulation (CDPR) Sustainable Pest Management Grants Program had no projects that meet this description to report for 2022–2024.

Incorporating reporting from a wider scope of State programs and with more specific implementation details could help identify more State funded and State implemented afforestation between communities and croplands.

Additionally, there is likely afforestation between communities and croplands happening independent of State funding or direct land management programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important afforestation work happening across California.

Urban and Community Forest Conservation

Data sources and approach used to estimate progress
Data sources to be used:

- CAL FIRE Urban Forestry Program's Tree City USA reporting data
- USDA Forest Service, CAL FIRE, and National Oceanic and Atmospheric Administration's California's Urban Tree Canopy 2025

New urban and community forest conservation in 2022–2024 was measured as the California cities that have a public tree care ordinance updated in 2022–2024 and that meet a minimum tree replacement threshold of at least one tree planted for every tree removed during this same time period (CAL FIRE Urban Forestry Program's Tree City USA reporting data).

Of the 19 cities with recently updated ordinances, an average of 2.6 trees were reported planted per tree removed from 2022 to 2024, counting non-reported years as 0. Based on this approach, 15 out of the 19 cities had reported average tree replacement rates of 1 or more.

The area of urban tree canopy for these cities was obtained from the 2022 canopy acres published by California's Urban Tree Canopy Data 2025.

Estimate of progress
The sum of all the canopy acres for the 15 cities that meet the above ordinance and tree replacement criteria comes is approximately 26,142 acres from 2022–2024, averaging 8,714 acres of canopy conserved per year.

Limitations and future reporting improvements
Urban and community forest conservation is unique from conservation of other land types. First, many urban trees are located on land with no formal protection status. Second, a tree growing on land that is protected from development does not mean that an individual tree is protected. For these reasons, the above methodology was developed as an indicator of conservation of overall urban and community forest canopy.

Urban and Community Greening and Forestry

Data sources and approach used to estimate progress
Data sources used:

- California State Parks Office of Grants and Local Services (OGALS) grant programs implemented projects 2022–2024
- California State Coastal Conservancy implemented projects 2022–2024
- Baldwin Hills and Urban Watersheds Conservancy implemented projects 2022–2024
- Coachella Valley Mountain Conservancy implemented projects 2022–2024
- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database Version 2.0 (ITS)

- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[15] (CARB 2025 Land Cover)
- Trees Planted (see Urban and Community Tree Planting section below)
- iTree Planting Calculator
- California Urban Forest Inventory

Acreage of urban and community greening and forestry projects reported by the California State Parks OGALS grant programs, the California State Coastal Conservancy, the Coachella Valley Mountain Conservancy, and the Baldwin Hills and Urban Watersheds Conservancy for 2022–2024 were reported here.

In addition, urban and community greening and forestry activities were reported from ITS. This analysis calculates the total area of restoration activities completed in 2022, 2023, and 2024 (Calendar Year = 2022, 2023, or 2024). Only implemented activities were counted: in ITS, CNRA activities (Agency = CNRA) with Activity Status = Active or Complete indicates these activities have been implemented, while for activities outside of CNRA (Agency ≠ CNRA), only Activity Status = Complete indicates these activities have been implemented.

The following activities were counted (to learn more about what activities are included in these activity categories and how they are defined, please see the ITS System Framework and Data Dictionary):

- Ecosystem or Habitat Restoration
- Habitat Revegetation
- Oak Woodland Management
- Tree Planting
- Wetland Restoration

The polygons of the above activities were used to determine the area of census urban areas (CARB 2025 Land Cover) impacted by these activities.

Additionally, the footprint area from urban trees planted (see Urban and Community Tree Planting section below) was estimated using an average projected canopy area or 304 square feet per tree. This average canopy area was estimated by modeling the top 10 genera of urban trees planted in California (California Urban Forest Inventory) using the iTree Planting Calculator (at 40 years old, assuming good condition, full sun, and 3% annual mortality rate). See the Urban and Community Tree Planting section for information on estimating the number of trees planted. Reported number of trees planted by the California State Parks OGALS grant programs were excluded from this footprint area calculation because these trees were planted as part of their urban and community greening and forestry projects that were reported in acres.

Estimate of progress
From 2022–2024, an average of 3,334 acres per year of urban and community greening and forestry activities were reported.

Limitations and future reporting improvements
Many State programs that fund urban and community greening and forestry report on the number of trees planted, but not the acres of implementation. One reason for this is that tree planting efforts are often spread out, without a clear footprint. Additionally, tree planting is only

[15] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

part of this target: it also includes increase of green space, grass removal and planting drought-tolerant vegetation, and increasing canopy cover.

Reporting on urban and community greening and forestry will continue to improve as the use of statewide reporting systems evolves and expands. As more entities and programs contribute data—especially with spatially accurate information and specific activity information—and with continued development of QA/QC processes and data interoperability, the database will provide a more complete and precise picture of statewide efforts

Furthermore, there is significant urban and community greening and forestry work happening independent of State funding and direct land management programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important urban and community greening and forestry work happening across the state.

Reducing Community Wildfire Risk

Data sources and approach used to estimate progress
Data sources used:

- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database version 2.0 (ITS)
- CAL FIRE GIS Mapping and Data Analytics Wildland Urban Interface 2025 (WUI 2025)

This analysis calculates the total area of beneficial fire and other fuels reduction activities completed in 2022, 2023, and 2024 (Calendar Year = 2022, 2023, or 2024) that occurred in the wildland urban interface (WUI 2025). Only implemented activities were counted: in ITS, CNRA activities (Agency = CNRA) with Activity Status = Active or Complete indicates these activities have been implemented, while for activities outside of CNRA (Agency ≠ CNRA), only Activity Status = Complete indicates these activities have been implemented.

The following activities were counted (to learn more about what activities are included in this activity category and how they are defined, please see the ITS System Framework and Data Dictionary):

- All activities where Activity Category = Prescribed Fire and that are counted toward the Million Acre Strategy (Counts_To_MAS = Yes), except for the Pile Burning activity which was not included at all.
- All activities where Activity Category = Targeted Grazing, Mechanical and Hand Fuels Reduction, or Timber Harvest and that are counted toward the Million Acre Strategy (Counts_To_MAS = Yes).

The WUI 2025 layer was used to calculate the area of the above activity polygons inside the wildland urban interface (where WUI_DESC = Interface).

Estimate of progress
Acres of wildfire risk reduction in the wildland urban interface were 7,784 in 2022, 10,693 in 2023, and 5,316 in 2024, averaging 7,931 acres per year across all three years.

Limitations and future reporting improvements
Reporting on beneficial fire and other fuels reduction in the wildland urban interface will continue to improve as the use of ITS evolves and expands. As more entities and programs contribute data—especially with spatially accurate information and specific activity

information—and with continued development of data quality assurance and quality control (QA/QC) processes and data interoperability, the database will provide a more complete and precise picture of statewide efforts.

Wildfire Ignition Rate from Vehicles

Data sources and approach used to estimate progress

Data sources used:

- CAL FIRE Wildfire Activity Statistics, annual reports from 2015–2022
- Caltrans Facts, annual reports from 2017–2024

For each year, the annual number of vehicle-caused fires was obtained from annual CAL FIRE Wildfire Activity Statistics reports.

To standardize across years by overall vehicle travel, number of vehicle-caused fires was divided by annual vehicle miles of travel on all public roads, obtained from annual Caltrans Facts reports. Public roads are generally defined as publicly owned and operated local city/county roads (paved), state highways (paved), federal roads (both paved and gravel/dirt unimproved roads on federal lands.

Estimate of progress

Table 2. Reported number of fires caused by vehicles and calculated number of vehicle-caused fires per billion miles traveled on all public roads by year.

Year	Number of fires caused by vehicles	Number of vehicle-caused fires per billion miles traveled on all public roads
2024	394	n/a
2023	310	n/a
2022	350	1.11
2021	419	1.34
2020	449	1.50
2019	376	1.13
2018	283	0.81
2017	309	0.89
2016	281	0.81
2015	256	0.75

Unlike many of the NBS targets that are in units of acres per year (not compared to any other years), the wildfire ignition rate from vehicles target is expressed as a percent change compared to a baseline. Therefore, for this target, it is essential to establish a robust baseline to provide a consistent reference point against which future changes can be accurately measured and interpreted.

A baseline period of 2018–2022, averaging across years, results in a baseline of 1.18 vehicle-caused fires per billion miles travelled on all public roads. Data on annual vehicle miles traveled are not yet available for 2023 and 2024 (Table 2). As data becomes available, progress towards the target can be calculated as a percentage change from this baseline.

Limitations and future reporting improvements
Fire statistics only reflect fires in CAL FIRE's State Responsibility Area (SRA).

Statistics on ignitions from vehicles reflect incidents not only on Caltrans-managed roads, but also on locally and federally managed roads.

Priority Roadside Treatment

Data sources and approach used to estimate progress
Data sources used:

- Caltrans Vegetation Management Program - Roadside & Landscape and Tree Treatments (Field Crews), 2022–2024
- Wildfire Adaptation Fuel Reduction Projects funded by Caltrans, contract cycles 1 and 2[16]
- Caltrans Division of Transportation Planning (DOTP) Interregional Road System[17]

Total annual roadside vegetation treatment work was calculated as the sum of the work completed by Caltrans field crews and the work completed through Caltrans contracts.

Priority roads that function as primary evacuation routes are defined as the Caltrans DOTP Interregional Road System, totaling 14,635 centerline miles. Along this road system, Caltrans estimates the treatable vegetated areas total approximately 153,667 acres.[18] Areas not included here consist of engineered improvements (such as bridges, culverts, soundwalls, shoulders with gravel) and areas with landscaping and irrigation systems.

Percent of priority roads treated was calculated as the total annual roadside vegetation treatment work divided by the treatable vegetated area along priority roads.

Estimate of progress
80% of treatable area along priority roads was reported being treated in 2022, 90% in 2023, and 93% in 2024, averaging 88% across all three years.

Limitations and future reporting improvements
While these numbers reflect the extent of basic vegetation management, there is still a need for specialized vegetation management crews to address the diversity of major vegetation types in California, and to develop specialized training modules, certification, upgraded equipment, etc. and a maintenance plan for the highway corridors that responds to effectiveness goals. Furthermore, ongoing assessment of road networks will help identity existing and new priority evacuation routes.

Urban and Community Tree Planting

Data sources and approach used to estimate progress
Data sources used:

- Baldwin Hills and Urban Watersheds Conservancy implemented projects 2022–2024
- California Strategic Growth Council Transformative Climate Communities Program (SGC TCC) implemented projects 2022–2024

[16] Caltrans communication
[17] Caltrans HQ Vegetation Management Program (2025-2030) - 5 Year Planning Data
[18] Caltrans communication

- California Strategic Growth Council Affordable Housing and Sustainable Communities Program (SGC AHSC) implemented projects 2022–2024
- California State Coastal Conservancy implemented projects 2022–2024
- California Climate Investments Reporting and Tracking System (CCIRTS) Implemented Projects Detailed Database, April 2025 release
- California State Parks Office of Grants and Local Services (OGALS) grant programs implemented projects 2022–2024

From the CCIRTS Implemented Projects Detailed Database, number of trees planted were summed where:

- Reporting Cycle Name is 2022, 2022 Mid-Year Update, 2023, 2023 Mid-Year Update, 2024, and 2024 Mid-Year Update
- Programs and projects counted:
    - California Conservation Corps Training and Workforce Development Program (Project Type: Urban Forestry)
    - CAL FIRE Urban and Community Forestry Program
    - CalRecycle Community Composting for Green Spaces Grant Program
    - CNRA Urban Greening Program

In addition, the California State Parks OGALS grant programs, the California State Coastal Conservancy, the Baldwin Hills and Urban Watersheds Conservancy, SGC TCC, and SGC AHSC each provided number of trees planted through their programs.

Estimate of progress
From 2022–2024, 80,753 trees reported being planted, averaging 26,918 trees per year.

Limitations and future reporting improvements
While other databases and program data used in this report are completed projects, the CCIRTS database reports projects as "implemented" when an agency has committed funds to a known recipient for a project with a defined location and attributable benefits.

Reporting on urban tree planting will continue to improve as the use of statewide reporting systems evolves and expands. As more entities and programs contribute data—especially with spatially accurate information and specific activity information—and with continued development of QA/QC processes and data interoperability, these databases will provide a more complete and precise picture of statewide efforts.

Furthermore, there is likely urban tree planting happening independent of State funding or direct land management programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important urban and community tree planting work happening across the state.

Wetlands and Seagrasses

Acreage Targets

Nature-Based Solution (acres/year)	2030	2038	2045
Wetlands and Seagrasses Conservation • Conserve coastal wetlands, seagrass beds, Delta wetlands, and mountain meadow wetlands	1.3K	1.3K	1.3K

Wetlands and Seagrasses Restoration • Restore and/or re-establish coastal wetlands, including through beneficial reuse of sediment • Restore and/or re-establish seagrass beds, with a focus on eelgrass meadows • Restore Delta wetlands, including through re-establishing brackish and freshwater tidal wetlands on previously drained or seasonal wetlands, and rewetting deeply subsided areas through the creation of non-tidal managed wetlands or rice cultivation • Restore and/or rewet previously drained San Francisco Bay wetlands • Restore mountain meadow wetlands through restoring proper hydrologic flow, removing conifer encroachment, and/or beaver reintroduction	9.2K	9.2K	9.2K
Sea Level Rise Protection of Ecosystems • Restore coastal wetlands in a manner that enables them to keep pace with sea level rise, including conserving upland space needed for wetland migration	1.7K	1.7K	1.7K
TOTAL acres/year	**12.2K**	**12.2K**	**12.2K**

Wetlands and Seagrasses Conservation

Data sources and approach used to estimate progress
Data sources used:

- 30x30 Conserved Areas, Terrestrial (2022)
- 30x30 Conserved Areas, Terrestrial (2024)
- National Marine Sanctuaries Chumash Heritage Boundary Polygon
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[19] (CARB 2025 Land Cover)
- California Aquatic Resource Inventory (CARI)

This approach looks at the difference in land protected in 2024 compared to 2022 across wetlands identified as GAP code 1, 2, or 3. To learn more about how GAP statuses are defined and assigned, please see the U.S. Geological Survey's GAP Status Code Assignment Assumptions, Criteria, and Methods. The 2022 and 2024 30x30 Conserved Areas datasets incorporate the California Protected Areas Database (CPAD), the most comprehensive collection of data on open space in California, and the California Conservation Easement Database (CCED), which aggregates data on lands with conservation easements. CPAD and CCED are both managed by GreenInfo Network.

For the purpose of capturing coastal wetland conservation in the analysis for this target, the 30x30 Conserved Areas, Terrestrial (2024) data layer was supplemented with the addition of Chumash Heritage National Marine Sanctuary, which represents the only known marine conservation since 2022.

Conservation of coastal wetlands, seagrass beds, Delta wetlands, and mountain meadow wetlands was estimated as the area identified as "Rewetted Organic Soil," "Saline Salt Marsh," "Mesohaline Salt Marsh," "Oligohaline Salt Marsh," "Delta Wetlands," and "Montane Meadow"

[19] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

(CARB 2025 Land Cover), as well as any additional area identified as "Eelgrass" by CARI, with GAP 1, 2, or 3 status in the 30x30 Conserved Areas, Terrestrial (2024) plus Chumash National Marine Sanctuary that did not have GAP 1, 2, or 3 status in 2022.

The wetlands and seagrasses conservation target was calculated based on conservation of coastal wetlands only. Conservation of coastal wetlands and seagrass beds was estimated as the area identified as "Saline Salt Marsh," "Mesohaline Salt Marsh," and "Oligohaline Salt Marsh" (CARB 2025 Land Cover), as well as any additional area identified as "Eelgrass" by CARI, with GAP 1, 2, or 3 status in the 30x30 Conserved Areas, Terrestrial (2024) plus Chumash National Marine Sanctuary that did not have GAP 1, 2, or 3 status in 2022.

Estimate of progress
From 2022 to 2024, 23,550 acres of coastal wetlands, seagrass beds, Delta wetlands, and mountain meadow wetlands and 10,016 acres of coastal wetlands and seagrass beds were added via easements, permanent protections, management improvements, and/or data enhancements. The average across these two years of reporting is 11,775 acres per year of coastal wetlands, seagrass beds, Delta wetlands, and mountain meadow wetlands and 5,008 acres per year of coastal wetlands and seagrass beds.

Limitations and future reporting improvements
These results reflect new land conservation and improved conservation data collection through 30x30. We are unable to determine whether all these acres were newly conserved during the 2022–2024 reporting period, or newly reported, but previously conserved.

Future reporting will depend on ongoing improvements to CARI, as well as building alignment around definitions of wetland categories for planning, reporting, and quantification purposes.

Many other wetland systems exist in California that are not coastal wetlands, seagrass beds, Delta wetlands, or mountain meadow wetlands, such as vernal pools and freshwater wetlands on mineral soil that cover significant areas in the state. While not included in the NBS climate targets, conservation of these other wetland systems is also important.

Wetlands and Seagrasses Restoration

Data sources and approach used to estimate progress
Data sources used:

- EcoAtlas Project Tracker Habitat Project and Sites data
- California Department of Water Resources implemented projects 2022–2024
- California Ocean Protection Council implemented projects 2022–2024
- California State Coastal Conservancy implemented projects 2022–2024
- California Wildlife Conservation Board programs, implemented projects 2022–2024
- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database Version 2.0 (ITS)
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[20] (CARB 2025 Land Cover)

The California Department of Water Resources, the California Ocean Protection Council, the California State Coastal Conservancy, and the California Wildlife Conservation Board provided

[20] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

data on projects funded that were identified as coastal, delta, or mountain meadow wetland restoration completed in 2022 through 2024.

In addition, implementation data from the EcoAtlas Project Tracker Habitat Project and Sites data, acres of wetland restoration implementation were added where:

- Activity Status is Completed or Implementation Completed;
- Activity Phase Name is Implementation;
- Project End Date is 2022, 2023, 2024 or for projects where Project End Date is blank, project start date is 2019–2024 (assuming an average project term of 3 years);
- Activity Type Name is Restoration (unspecified), Restoration/Rehabilitation, Restoration/Re-establishment, or Enhancement;
- Habitat Name is Estuarine Wetland or Subtidal Habitat, or the Habitat Name is Palustrine Wetland or Riverine Wetland and the project is described as restoring mountain meadow wetlands;
- The project description is in line with this target's restoration activities; and
- The project does not list the California Department of Water Resources, the California State Coastal Conservancy, or the California Wildlife Conservation Board as funders (to avoid double counting with implementation data provided directly by these entities).

Wetland restoration activities were also reported from ITS. This analysis calculates the total area of restoration activities completed in 2022, 2023, and 2024 (Calendar Year = 2022, 2023, or 2024). Only implemented activities were counted: in ITS, CNRA activities (Agency = CNRA) with Activity Status = Active or Complete indicates these activities have been implemented, while for activities outside of CNRA (Agency ≠ CNRA), only Activity Status = Complete indicates these activities have been implemented.

The following activities were counted (to learn more about what activities are included in these activity categories and how they are defined, please see the ITS System Framework and Data Dictionary):

- Wetland Restoration
- Aspen/Meadow/Wet Area Restoration
- Ecosystem or Habitat Restoration
- Habitat Revegetation
- Invasive Plant Removal
- Stream Channel Improvement

The polygons of the above activities were used to determine the area of restoration activities on coastal wetlands, seagrass beds, Delta wetlands, and mountain meadow wetlands ("Rewetted Organic Soil," "Saline Salt Marsh," "Mesohaline Salt Marsh," "Oligohaline Salt Marsh," "Delta Wetlands," and "Montane Meadow" in CARB 2025 Land Cover).

Estimate of progress

Average annual reported implementation of wetland restoration from 2022–2024 is 8,222 acres per year.

Limitations and future reporting improvements

Significant wetland restoration work was reported by the California Department of Fish and Wildlife's Wetlands Restoration for Greenhouse Gas Reduction Program and Wetlands and Mountain Meadows Restoration Program, however wetland type could not be distinguished

from the reported acres and thus, were not reported here. Some of these projects were included in this reporting via EcoAtlas where wetland type could be confirmed.

Reporting on wetlands restoration implementation will continue to improve as the use of statewide reporting systems evolves and expands. As more entities and programs contribute data—especially with spatially accurate information and specific activity information—and with continued development of QA/QC processes and data interoperability, these databases will provide a more complete and precise picture of statewide efforts.

Furthermore, there is likely work on wetland restoration happening independent of State funding or direct land management programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important wetland restoration work happening across the state.

Many other wetland systems exist in California that are not coastal wetlands, seagrass beds, Delta wetlands, or mountain meadow wetlands, such as vernal pools and freshwater wetlands on mineral soil that cover significant areas in the State. While not included in the NBS climate target, restoration of these other wetland systems is also important.

Sea Level Rise Protection of Ecosystems

Data sources and approach used to estimate progress
Data sources used:

- California Ocean Protection Council implemented projects 2022–2024
- California State Coastal Conservancy implemented projects 2022–2024
- California Wildlife Conservation Board programs, implemented projects 2022–2024
- California Climate Investments Reporting and Tracking System (CCIRTS) Implemented Projects Detailed Database, April 2025 release

The California Ocean Protection Council, the California State Coastal Conservancy, and the California Wildlife Conservation Board provided data on projects funded that were identified as sea level rise protection of ecosystems completed in 2022 through 2024.

In addition, from the CCIRTS Implemented Projects Detailed Database, acres of sea level rise protection of ecosystems were summed where:

- Reporting Cycle Name is 2022, 2022 Mid-Year Update, 2023, 2023 Mid-Year Update, 2024, and 2024 Mid-Year Update
- Project Type is Nature Based Sea Level Rise Adaptation

Estimate of progress
From 2022–2024, 2,053 acres of sea level rise protection of ecosystems activities were reported, averaging 684 acres per year.

Limitations and future reporting improvements
While other databases and program data used in this report are completed projects, the CCIRTS database reports projects as "implemented" when an agency has committed funds to a known recipient for a project with a defined location and attributable benefits.

Reporting on sea level rise protection of ecosystems implementation will continue to improve as the use of statewide reporting systems evolves and expands. As more entities and programs contribute data—especially with spatially accurate information and specific activity

information—and with continued development of QA/QC processes and data interoperability, these databases will provide a more complete and precise picture of statewide efforts.

Furthermore, there is likely work on sea level rise protection of ecosystems happening independent of State funding or direct land management programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important restoration work happening across California.

Sparsely Vegetated Lands

Acreage Targets

Nature-Based Solution (acres/year)	2030	2038	2045
Sparsely Vegetated Lands Conservation • Conserve lands to prevent conversion and/or disturbance	20K	30K	40K
Sparsely Vegetated Lands Restoration • Restore native vegetation on previously disturbed areas (or on those otherwise dominated by invasive species) including through invasive species removal and restoration of riparian zones	55.1K	55.1K	55.1K
TOTAL acres/year	**75.1K**	**85.1K**	**95.1K**

Sparsely Vegetated Lands Conservation

Data sources and approach used to estimate progress

Data sources used:

- 30x30 Conserved Areas, Terrestrial (2022)
- 30x30 Conserved Areas, Terrestrial (2024)
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[21] (CARB 2025 Land Cover)

This approach looks at the difference in land protected in 2024 compared to 2022 across sparsely vegetated lands identified as GAP code 1, 2, or 3. To learn more about how GAP statuses are defined and assigned, please see the U.S. Geological Survey's GAP Status Code Assignment Assumptions, Criteria, and Methods. The 2022 and 2024 30x30 Conserved Areas datasets incorporate the California Protected Areas Database (CPAD), the most comprehensive collection of data on open space in California, and the California Conservation Easement Database (CCED), which aggregates data on lands with conservation easements. CPAD and CCED are both managed by GreenInfo Network.

Change in sparsely vegetated lands conserved was estimated as the area where land cover type is sparsely vegetated lands (CARB 2025 Land Cover) with GAP 1, 2, or 3 status in 30x30 Conserved Areas, Terrestrial (2024) that did not have GAP 1, 2, or 3 status in 2022.

[21] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

Estimate of progress
From 2022 to 2024, 128,820 acres of sparsely vegetated lands conservation were added via easements, permanent protections, management improvements, and/or data enhancements. The average across these two years of reporting is 64,410 acres per year.

Limitations and future reporting improvements
These results reflect new land conservation and improved conservation data collection through 30x30. We are unable to determine whether these acres were newly conserved during the 2022–2024 reporting period, or newly reported, but previously conserved.

Sparsely Vegetated Lands Restoration

Data sources and approach used to estimate progress
Data sources used:

- California Wildfire & Landscape Resilience Interagency Treatment Tracker Database Version 2.0 (ITS)
- California Air Resources Board Natural and Working Lands Carbon Inventory 2025 update map of 2022 land cover[22] (CARB 2025 Land Cover)
- California Wildlife Conservation Board's California Riparian Habitat Conservation Program and Habitat Enhancement and Restoration Program, 2022–2024

This analysis calculates the total area of sparsely vegetated lands restoration activities completed in 2022, 2023, and 2024 (Calendar Year = 2022, 2023, or 2024; where Agency = CNRA activities were counted when Activity Status = Active or Complete; where Agency ≠ CNRA activities were counted only when Activity Status = Complete).

The following activities were counted (to learn more about what activities are included in these activity categories and how they are defined, please see the ITS System Framework and Data Dictionary):

- Ecosystem or Habitat Restoration
- Habitat Revegetation
- Invasive Plant Removal
- Wetland Restoration
- Stream Channel Improvement

The polygons of the above activities were used to determine the area of sparsely vegetated lands and beaches (CARB 2025 Land Cover) impacted by these activities. To learn more about what activities are included in these activity categories and how they are defined, please see the ITS System Framework and Data Dictionary.

In addition to ITS data, the Wildlife Conservation Board's California Riparian Habitat Conservation Program and Habitat Enhancement and Restoration Program provided data on projects funded that were identified as restoration of sparsely vegetated lands completed in 2022 through 2024, and these were added to the total.

Estimate of progress
From 2022–2024, 3,516 acres of sparsely vegetated lands restoration activities were reported, averaging 1,172 acres per year.

[22] Developed for the CARB 2025 Natural and Working Lands Carbon Inventory Update.

Limitations and future reporting improvements

Reporting on sparsely vegetated lands restoration implementation will continue to improve as the use of statewide reporting systems evolves and expands. As more entities and programs contribute data—especially with spatially accurate information and specific activity information—and with continued development of QA/QC processes and data interoperability, these databases will provide a more complete and precise picture of statewide efforts.

Furthermore, there is likely work on sparsely vegetated lands restoration happening independent of State funding or direct land management programs that are not represented here. Improving ways in which this work is reported will increase the State's ability to recognize and report on a wider scope of the important restoration work happening across the state.

State Expenditure

AB 1757 requires reporting on State expenditures made to implement the NBS climate targets. As stated above, this report is based largely on data from existing statewide implementation databases. Like many of these statewide databases, the two that this reporting relies most heavily on, the California Wildfire & Landscape Resilience Interagency Treatment Tracker Database and the 30x30 Conserved Areas, do not capture expenditures.

Therefore, this progress report includes information on State budget appropriations. State appropriations toward the NBS climate targets amount to approximately $4.7B from fiscal years 2022-23, 2023-24, and 2024-25. An additional $426M was invested in related efforts that support the NBS climate targets.

The former total was calculated using State budget appropriation amounts for programs and initiatives that result in or have the ability to result in direct implementation of the targets or in planning or capacity building that is connected to direct implementation. Similarly, the latter number was calculated using State budget appropriation amounts for programs and initiatives that have the ability to support implementation of the NBS climate targets, including research, assessment, monitoring, permitting, and outreach. These determinations were made using appropriation descriptions, existing program websites, and through collaboration with relevant State staff.

In the future, collecting funding information alongside land management information can more accurately reflect State expenditure on the NBS climate targets. With the development and increased use of the Resources Agency Project Tracking and Reporting system, State expenditures reporting will improve.