Responses to Comments on the **Safeguarding California Plan: May 2017 Draft Report**

Reviewed for the

SAFEGUARDING CALIFORNIA PLAN: 2018 UPDATE CALIFORNIA'S CLIMATE ADAPTATION STRATEGY

JANUARY 2018

CALIFORNIA natural resources AGENCY

TABLE OF CONTENTS

About this document: We are sharing these informal responses as part of our ongoing effort to make Safeguarding California transparent and accountable. Many responses allude to the necessity of ongoing conversation and further needed changes, and should not be interpreted as the final or official position of state agencies.

COMMENT SUMMARY: AT A GLANCE

33 LETTERS RECEIVED

Agricultural Council of California
Alliance of Regional Collaboratives for Climate (ARCCA)
Asian Pacific Environmental Network (APEN)
Bay Area Stormwater Management Agencies Association (BASMAA)
CADMUS Group
California Association of Sanitation Agencies (CASA)
California Forestry Association
California Pan-Ethnic Health Network (CPEHN)
Center for Biological Diversity
City and County of San Francisco
Delta Stewardship Council
East Bay Regional Park District
Greenlining Institute
Gregory Nelson
Heal the Ocean
Human Impact Partners
Joint Environmental NGO Letter
Leadership Counsel for Justice and Accountability (LCJA); Center on Race, Poverty, & the Environment (CRPE); Community Alliance for Agroecology (CAA); Central Valley Air Quality Coalition (CVAQC)
Nature Conservancy
Ocean Conservancy
Pacific Forest Trust
Roy Thun
San Diego County Water Authority
San Diego Unified Port District
Santa Ana Watershed Project Authority
Sid Abma
Sierra Business Council
Southern California Gas Company (SoCalGas)
State Coastal Conservancy
Thomas J. Phillips
Union of Concerned Scientists
William Stewart (1)
William Stewart (2)

Split up and reviewed as:

500+ INDIVIDUAL COMMENTS

- **82** Overall Plan
- **28** Emergency Management
- **60** Energy
- **25** Land Use and Community Development
- **82** Public Health
- **37** Transportation
- **34** Agriculture
- **39** Biodiversity and Habitat
- **55** Forests
- **37** Ocean and Coast
- **43** Water

Resulting in:

OVER 500 RESPONSES
from State Agency Staff;

OVER 300 REVISIONS
to the May 2017 draft; and

2 ADDITIONAL CHAPTERS
included in the final Plan.

General Comments

Source	Comment Summary	Response	Edit Location
Pacific Forest Trust	The overarching goal for natural and working lands should be reframed as "Natural and working lands are protected and restored so that these lands can continue to provide essential ecological services for people and wildlife." Since California cannot adapt to climate change without working with nature, these connections should be made clear: wetlands will protect coastlines from rising sea levels; healthy forest watersheds supply our cities with clean water; and natural and working lands will provide refugia to wildlife migrating in response to climate change.	We don't think that this level of specificity is necessary in this introduction, but agree that the overarching goal needs to communicate the many services (not just ecological) provided by natural and managed resource systems. We think that these goals are articulated within the Forests, Water, Biodiversity and Habitat, and Parks, Recreation, & California Culture chapters.	Natural and Managed Resource Systems Introduction
Pacific Forest Trust	The Safeguarding plan should be well integrated with other state plans, especially the Scoping Plan Update, Water Action Plan, the Forest Carbon Plan, and any regional implementation that flows from these plans. Safeguarding should prioritize actions that also achieve state goals for carbon, water, and wildlife.	We agree, and while this integration is not always explicit the goals are clear. The mission of Safeguarding is to provide a roadmap of ongoing and future actions by state government to adapt to climate change; regional actions are referenced as examples but there are no regional goals. A call-out box was added in the Policies and Programs section of the Introduction on "Examples of State Documents Aligned with Safeguarding California" to make the connection with other state plans more explicit. Additionally, for clarity and consistency, carbon benefits are not addressed independently, though the dual benefits of strategies for both adaptation and climate mitigation are highlighted throughout the plan.	"Examples of State Documents Aligned with Safeguarding California" in State Policies and Programs section of the Introduction
Heal the Ocean	Incorporate concrete timelines into Recommendations and Next Steps in the Plan.	Per AB 1482, the Natural Resources Agency will annually report to the Legislature on actions taken to implement the plan. Many next steps represent multi-agency efforts that will be implemented over several years in various stages. We think annual reporting will be a more flexible and effective way to track the hundreds of next steps identified in the plan and the many ways each will be implemented. Recommendations provide overarching policy directives without a specific timeframe.	N/A

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
Ocean Conservancy	The state should prioritize which adaptation activities are most critical and will provide immediate results and benefits.	Since this plan represents the adaptation initiatives of over 30 state agencies with distinct missions and roles, different activities have different priorities for different actors. We do not think it would be useful to designate certain activities among the hundreds being undertaken across state government as more important than others, as priorities differ by agency or even division within an agency.	N/A
Union of Concerned Scientists	Co-production of data should be emphasized between local and regional practitioners and researchers involved in future California Climate Change Assessments to ensure that findings are actionable at all levels of government in the state.	We agree, and the Strategic Growth Council's new Research Investment Plan shows the steps the State is taking to invest in partnerships with local and regional practitioners.	Climate Justice Goal 5
Union of Concerned Scientists	Comprehensive State Adaptation Strategies (Page 7) should explain the connection to specific sector strategies. For example, the Transportation Sector Chapter does not include specific actions to "partner with California's most vulnerable populations to increase equity and resilience through investments, planning, research, and education" as recommended in CA-2. The list on page 7 should include Recommendation CA-7 "Increase investment in climate change vulnerability assessments of critical built infrastructure systems." (listed on page 17).	The Comprehensive State Adaptation Strategies were replaced by statewide principles for the final version of the Plan. The icons below each statewide principle shows its connection to specific sector strategies.	Statewide Principles in Introduction
Union of Concerned Scientists	Recommendation CA-2: CalBRACE is a good example, but the text should specifically call out the need to develop this information and distribute it across all the sectors.	The statewide recommendations have been reframed as principles based on public comment, and efforts have been made to simplify and clarify their intent and application. We continue to work with our partners at the California Department of Public Health and other agencies to distribute relevant climate information across sectors and initiatives. For example, the CalBRACE reports are important data for the regional reports being produced as part of the Fourth Climate Change Assessment.	Statewide Principles in Introduction

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
Union of Concerned Scientists	Recommendation CA-3: The Update should describe how the state already actively seeks input of information and research at the local and regional levels. It should identify additional vehicles and resources to gather further input. Some resources should be identified to provide feedback from users of existing data tools on user experience over all sectors. UCS recommends including descriptions for Cal-Adapt 2.0 and highlighting the need for future efforts to emphasize co-production of data and research in other sectors as well as the development and refinement of data/ tools.	The statewide recommendations have been reframed as principles based on public comment, and efforts have been made to simplify and clarify their intent and application. Many references and actions related to science and Cal-Adapt are found in the introduction and throughout the sectors, with multiple linkages noted throughout the document.	Statewide Principles in Introduction
Union of Concerned Scientists	Recommendation CA-5: Highlight actions from additional sectors that build climate preparedness and reduce GHG emissions in addition to the natural infrastructure solutions already mentioned. For example, the Renewable Auction Mechanism, Renewable Feed-In Tariff program and California Solar Initiative have successfully increased renewable distributed generation, reducing greenhouse gas emissions and increasing the resilience of the overall energy system.	The statewide recommendations have been reframed as principles based on public comment, and efforts have been made to simplify and clarify their intent and application. Additional examples have been incorporated throughout the document, but not in the text of these principles.	Statewide Principles in Introduction
Union of Concerned Scientists	All sectors should include next steps of developing economic assessment strategies to quantify the impacts of climate change on the transportation system as mentioned in T-3.2. Public Resources Code 71155(a) should be explicitly mentioned in all relevant sectors and also at the beginning of the document.	We will consider this comment moving forward. Since this plan represents the adaptation initiatives of over 30 state agencies with distinct missions and roles, different activities have different priorities for different actors. Each sector has different challenges, services, and assets in evaluating the effect of impacts. The guidance document "Planning and Investing for a Resilient California" provides guidance and recommended approaches for implementing appropriate steps across state agencies.	N/A
ARCCA	Strengthen the Plan's regional approach and framework to prioritize collaboration and cross-sectoral partnerships, especially with sectors that are not as engaged but are critical to achieving state goals and building resilience such as the business and technology sectors.	The Safeguarding California Plan is a roadmap showing how California's state government is taking action to respond to climate change, and does not represent or direct actions from actors in the business and technology sectors. Those actions are best coordinated at a regional level, where practitioners can use this update to identify relevant ongoing actions and next steps by state agencies that can help their regional	N/A

Source	Comment Summary	Response	Edit Location
		efforts. The regional reports being produced by the Fourth Climate Change Assessment and the Governor's Office of Planning and Research's Integrated Climate Adaptation and Resilience Program will support regional adaptation approaches in coordination with Safeguarding California.	
Joint environmental NGO letter	Include a framework to prioritize implementation of adaptation strategies; fostering greater cross-sectoral integration; identifying resource and policy needs and including additional actions to increase public awareness. Actions that protect the state's most vulnerable populations: (mentioned in CA-2) should be prioritized and explicitly described in a clear process across all sectors. Natural infrastructure solutions: Each sector (not just Ocean and Coastal) should include Recommendation CA-5's emphasis on natural infrastructure in its recommendation as per California Government code §65302(g)(4)(c)(5).	Since this plan represents the adaptation initiatives of over 30 state agencies with distinct missions and roles, different activities have different priorities for different actors. We do not think it would be useful to designate certain activities among the hundreds being undertaken across state government as more important than others, as priorities differ by agency or even division within an agency. See the Climate Justice section now added to the body of the document. Natural infrastructure is a central principle of the update and is reflected throughout the document per state statute.	Climate Justice chapter
East Bay Regional Park District	The East Bay Regional Park District is the stewards over 120,000 acres of wild lands and 55 miles of shorelines in the East San Francisco Bay, and is well-positioned to partner with the State on climate adaptation and provision of natural infrastructure that builds resilience for communities and ecosystems. This includes working with the state to manage grazing lands, forests, and wetlands to maximize carbon storage; research projects on sea level rise and carbon storage for adaptation and mitigation; regional Forest Carbon Plan implementation; restoring natural infrastructure in the Delta and eastern Contra Costa County; and potentially utilizing State carbon management practices such as the California Wetland voluntary protocol.	Thank you for your letter, and for your willingness to collaborate with the State on land management; we look forward to working with you. In the final version of the Plan, we added a chapter on Parks, Recreation, and California Culture. The chapter highlights the importance of working with regional Parks districts on natural infrastructure development, landscape-scale land management projects, sea level rise resiliency, and public engagement. Since some of your comments relate to carbon storage and climate mitigation on natural and working lands, we hope to also engage you as a regional partner for the Natural and Working Lands Implementation Plan being developed in 2018.	Parks, Recreation, and California Culture Chapter
ARCCA	Prioritize the development of a comprehensive funding and financing strategy to accelerate the transition from planning to implementation: a) For each ongoing action and next step, the final Plan should describe the level of funding required, the existing funding stream(s) currently being leveraged or exhibiting strong potential to be leveraged in the near future, and	Thank you for your comment. a) Since the Governor and the Department of Finance have a formal budget-making process, we don't think it would be appropriate for other State agencies within the executive branch to interfere with this role by developing their own financing and funding strategy.	N/A

Source	Comment Summary	Response	Edit Location
	the perceived gap between funds required and funds available with strategies to fill this gap. Consider developing a more comprehensive funding strategy with defined timelines and including a maintained list of funding opportunities in readily available online resources such as the ARB Funding Wizard, the Adaptation Clearinghouse, and Cal-Adapt. b) Increase funding opportunities for local governments to prioritize regional projects with multiple co-benefits to maximize the impact of limited funds. c) Invest in infrastructure improvements that can withstand the anticipated near and long-term climate change impacts. d) Provide a greater focus on capacity building, public outreach, and education to increase understanding, buy-in, and political support for building community resilience. Provide or incentivize additional funding and financing opportunities for low-income, hard-to-reach, rural, and underserved community members to ensure that all Californians are included in our transition toward a low-carbon, resilient future.	b) L-6 supports increasing funding opportunities for local governments. A list of funding opportunities for local and regional projects will be made available through the Office of Planning and Research's Adaptation Clearinghouse. c) Infrastructure improvements are discussed as an overarching Principle for the Plan (see Principle 7 in the Introduction). d) Each policy chapter in Safeguarding California has at least one recommendation on capacity building, public outreach, and education.	
ARCCA	Better delineate how each sector is integrating the "Comprehensive State Strategies" to the degree possible and using them to define and frame activities and actions for the future: • CA-1 - focus more on implementation over the next 3-5 years to help show what legislation and policy will mean in practice for state agencies. • CA-2 - this section does not speak to what the state is doing. CalBRACE is a modest program, and the barriers study does not translate to action. SB 1000 and SB 379 require local action to implement as opposed to state action. • CA-4 - Local funding is not state action and the other 2 examples represent only a fraction of needs seen throughout the rest of the report.	The statewide recommendations have been reframed as principles based on public comment, and efforts have been made to simplify and clarify their intent and application. This update is a roadmap showing how California's state government is acting to respond to climate change. The strategies that different sectors will contribute to accomplish the statewide principles are also listed under each principle to show the integration of the principles across chapters.	Statewide Principles in Introduction

Source	Comment Summary	Response	Edit Location
	• CA-5 - focus on development of practices and deployment of scalable pilots to build experience and share knowledge and best practices with practitioners at all scales.		
ARCCA	Lift up adaptation "opportunities" to emphasize a positive future for California. Broadly, the Plan places heavy emphasis on risks - particularly in the Executive Summary and Introduction sections - but there are considerable opportunities associated with adaptation and resilience that could be woven through the report to emphasize market opportunities, new and innovative technology possibilities, and advancements in creative community planning that can arise through effective adaptation actions.	This update is a roadmap showing how California's state government is acting to respond to climate change. Many sections speak not only to the opportunity, but the necessity of revising how communities are engaged around planning to respond to climate impacts. It does not promote market opportunities as this falls outside the role of the state agencies who worked on the plan. A new supplementary document titled "Safeguarding California in Action" shows what successful State investments in adaptation look like on the ground.	See the "Safeguarding California in Action" document
ARCCA	Foster cross-sectoral collaboration and integration by including a clear and comprehensive cross-sectoral strategy, outlined in the beginning of the document, and designed to facilitate collaboration among the various agencies to efficiently achieve a more comprehensive vision of a resilient and equitable future for California. While we recognize the overarching challenge with adaptation planning is its interdisciplinary nature, we recommend, at a minimum, creating a stronger link between the following sectors in the final Plan: Energy and Transportation a) Energy and Forests, b) Energy and Water, c) Forests and Water, and d) Health, Energy and Water e) IT infrastructure and cybersecurity should be incorporated where relevant in the final plan. Data centers should be modern and energy efficient, located in areas that are less vulnerable to natural disasters (cloud computing makes this very feasible), and old or underutilized infrastructure should be retired.	Cross-sector linkages have been highlighted throughout the plan. It notes links between all the sections mentioned in this comment. The update is structured to direct and coordinate all state agencies on concrete actions and next steps. IT infrastructure and cybersecurity are included in ongoing efforts by the Government Operations Agency and the Office of Emergency Services in compliance with Public Resources Code 71155(a), but these actions are being taken internally. The State has no plans to assess the integration of climate information in the curricula of professional networks.	Cross-sector icons throughout the Plan

Source	Comment Summary	Response	Edit Location
	f) Engaging with higher education and professional networks (e.g. engineering, architecture, and construction) to assess the level and quality of climate change information integrated in their existing curricula and programs.		
ARCCA	Deliberately integrate equity into all recommendations to support the evolution of the adaptation field to become more people-centric, holistic, and equitable. Integrate and prioritize Recommendation CA-2 which directs agencies to partner with vulnerable populations to increase equity and resilience through investments, planning, research, and education in all sectors. While there are several existing programs supporting underserved communities - many of which are related to energy efficiency measures - it is important to consider and address barriers to participating in existing programs, and to expand layer services for streamlined community engagement. a) The state should partner with community-based organizations and coalitions of environmental justice and equity to better serve vulnerable populations. Efforts should be taken to meaningfully engage with community members to better understand their needs and concerns rather than being overly prescriptive. b) Climate change is not the greatest concern for most low-income and underserved communities (unless their livelihoods are directly threatened), but rather employment, income stability, safety, housing stability, food security, and health are far more pressing daily concerns. The state should continue expanding efforts to link climate and health and create a vision and investment strategy to tackle broader range of social issues through resiliency actions.	We agree, please see the revised Climate Justice section and the Public Health chapter, which align with these comments. While all the chapters incorporate some equity-related strategies, there are many additional steps that must be taken to address the climate gap.	Climate Justice chapter
ARCCA	Introduction - change "...2 degrees Celsius, the level at which potentially catastrophic consequences would occur."	This was removed from the introduction.	Introduction

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
Joint environmental NGO letter	The Update should employ landscape or watershed scale analyses and include a special focus on natural system function and services in addition to risk reduction, including water and food security, habitat for fish and wildlife, recreation, jobs, public health, and quality of life amenities.	This update is a roadmap showing how California's government is taking action to respond to climate change across the state. The Fourth Climate Change Assessment is producing reports to synthesize the state of climate science and key findings from State-funded research for nine regions of California. These reports will be linked to Safeguarding California.	N/A
Joint environmental NGO letter	Report back on actions from 2009 and 2014. Past iterations of the Safeguarding California Plan outlined a number of short-term and long-term actions. The final SCP should review these actions against the timelines and the list the results in an appendix along with each action's status (e.g., completed or ongoing). Additionally, identify funding needs. For each ongoing action and next step, the final SCP should describe whether there is one or more existing funding stream (if funding is needed) and how long that funding will last. It should also highlight which ongoing actions and next steps are currently in need of funding and any potential funding sources. Finally, identify policy needs. The Plan should explicitly identify if enabling legislation or additional authority is needed to successfully carry out the ongoing actions or next steps identified in the SCP. The need for clarity around policy needs is critical; it will promote meaningful results and send a message to relevant stakeholders, including the legislature and private investors, on the need to adopt policy to support climate adaptation in California.	The Natural Resources Agency will review identified actions from the 2009, 2014, and 2016 state adaptation strategies as part of its 2018 report on the implementation of Safeguarding California per AB 1482. This step was identified in the public comment draft; it has been elaborated upon in this final draft. This analysis and reporting should help identify whether actions are not implemented due to policy needs or funding needs and inform future updates to Safeguarding California. Appropriate agencies will also report on each of the next steps identified in Safeguarding California. While there is not currently capacity to identify funding needs for the hundreds of next steps in this update, the ways that existing funding sources are being used to advance adaptation and resilience is shown throughout.	Tracking Progress
Joint environmental NGO letter	Next steps and ongoing actions throughout the document should be more specific, include timelines, and identify agencies in charge of reporting back on progress. To ensure progress is being made, specific actors and deadlines for the next steps should be listed in each sector. In addition, next steps should be identified for all Comprehensive State Strategies. (If the sector-specific strategies are intended to serve as the implementation mechanism for the Comprehensive State Strategies, the Plan should make that explicit.) For each of these actions, progress reports should be made available to the public online on a regular schedule.	Responsible agencies are not identified for most next steps in the plan to facilitate cross-sector and interagency collaboration and accountability in the plan. The Natural Resources Agency will work with sector leads to ensure that multiple agencies report on progress for all relevant next steps. The statewide recommendations have been reframed as principles based on public comment, and efforts have been made to simplify and clarify their intent and application. Sector-specific strategies that are intended to serve as	Statewide Principles in Introduction

Source	Comment Summary	Response	Edit Location
		implementation methods for each statewide principle are listed.	
City and Council of SF	The report should be clearer in mentioning the preservation of existing "critical infrastructure," such as ports and airports, and incorporate strategies on how to adapt, move, and/or protect this infrastructure under the Resilience Actions.	This update is a roadmap showing how California's state government is taking action to respond to climate change. Specific recommendations for non-state agency actors on a local or regional scale were not incorporated for clarity and consistency. This update was designed for practitioners to use this update to identify relevant ongoing actions and next steps by state agencies that can help their regional efforts. Agencies like the Department of Transportation, the Office of Emergency Services, and the Department of Public Health discuss efforts to support initiatives to make critical infrastructure more resilient. The Fourth Climate Change Assessment is producing reports to synthesize the state of climate science and key findings from State-funded research for nine regions of California and may speak to state and local collaboration to address climate vulnerabilities of specific critical infrastructure systems. As an overarching theme, Statewide Principle 7 emphasizes the importance of investing in vulnerability assessments of critical infrastructure to lay the foundation for adaptation plans. Ports and airports were emphasized in the Ocean and Coast chapter for the final draft.	Statewide Principle 7; O-1.8

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
APEN, CPEHN, Human Impact Partners, Greenlining	Improve community engagement processes by reaching out to community first. Too often state agencies develop reports and recommendations before asking the community their needs and solutions, which is often counterproductive and could result in harmful recommendations rather than improvements in health. Therefore, state agencies must START with a community engagement process by talking with community residents first to understand their needs, concerns, and ideas. Then, with these concerns and issues in mind, develop recommendation for community review and approval. In addition, this report should define and provides examples of what "community" is. For example, some populations were mentioned very little if at all in Safeguarding California 2017, such as the prison population, disabled or elderly communities, and schools. These definitions should be developed in concert with community leaders working on climate justice and health equity issues.	We agree, and we try to reflect this important strategy in Recommendations P- 2, L-1, EM-4, E-4, T-5, B-6, O-5, and W-6 as well as the revised Climate Justice section. The Governor's Office of Planning and Research (OPR) is providing guidance to state agencies on implementing Executive Order B-30-15 that emphasizes the importance of community engagement. Since this update is meant to serve as an overview to show what state agencies are and will do to adapt to climate change, not as a tool to guide those actions, we will work with OPR to support this important guidance so that the recommendations cited above are implemented with proper community engagement and in accordance with your comment.	Climate Justice chapter
APEN, CPEHN, Human Impact Partners, Greenlining	Create an advisory committee that includes community representatives. An important way to create greater connection with community, and improve accountability and transparency, is to create an advisory committee that includes community leaders and representatives, who also hold decision-making authority around the report. The committee could also help to provide technical assistance on community engagement, greater links between state and local efforts, and ways to include a more targeted focus on health, equity, and environmental justice.	For future updates to Safeguarding California, we agree that the Natural Resources Agency should convene an advisory committee. Ad hoc efforts were insufficient for this important voice. The Technical Advisory Council convened by the Governor's Office of Planning and Research shared its vision for Safeguarding California, and the Climate Justice Working Group was an engaged partner in addressing health, equity, and environmental justice throughout the plan (as shown in the new Climate Justice chapter).	Vision (page 9); Climate Justice chapter
APEN, CPEHN, Human Impact Partners, Greenlining	Identify opportunities for regional discussions. In terms of structure, we recommend including a regional discussion in addition to the overall statewide strategy. Each region of the state faces different challenges given the different environmental, economic and social factors it faces. A regional discussion could describe how these strategies could be deployed cumulatively to have a more holistic impact on public health, and should include a more focused analysis of barriers or challenges specific to the region and how the state might help groups overcome those challenges.	Since Safeguarding aims to show how state government is taking action to respond to climate change across California, it does not include regionally-specific barriers and strategies. However, regional climate change vulnerability assessments will be included in the Fourth Climate Change Assessment. These reports will provide insight into regionally-specific climate vulnerabilities and barriers to adaptation challenges.	N/A

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
APEN, CPEHN, Human Impact Partners, Greenlining	Identify health, equity, anti-displacement, and environmental justice solutions through each chapter. Each sector provides an important vision for moving forward; however, there is a lack of focus on the most vulnerable communities and the health impacts of climate change. Therefore, a recommendation going forward is to thread priorities such as health, equity, anti-displacement, and environmental justice through each of the sectors to ensure that there is a prioritization of those communities most impacted, with the least resources, to address climate change.	The new Climate Justice chapter pulls out the recommendations within various chapters that contribute to health, equity, and environmental justice. There are recommendations in the Climate Justice chapter from each of the sector-specific policy chapters in Safeguarding California. While we agree that some chapters should include a stronger and more comprehensive equity focus in future updates to Safeguarding California, the Climate Justice chapter showcases how these topics are already a common thread in the current Plan.	Climate Justice chapter
APEN, CPEHN, Human Impact Partners, Greenlining	Encourage greater collaboration among state and local agencies and departments on developing recommendations. This report should further collaboration between state and local agencies and departments to identify cross-cutting themes and solutions to climate change. Currently, each sector has its own section and develops its own recommendations without input from other agencies or departments. While there is a larger recommendation on collaboration between state and local governments, it is lacking concrete suggestions and goals, which could and should be informed by regional or local community discussions. Climate change will not affect just one sector. For example, climate change poses multiple threats to certain communities such as those with mixed residential and industrial zones, or where there are toxic chemicals and potential sea level rise, or areas with increasing heat waves and prisons without air conditioning. In addition to working across sectors to tackle these impending challenges, state and local agencies should be encouraged to work together to inform goals and recommendations, especially given local government's planning authority. State and local governments should share data and information that would be helpful in developing more informed recommendations. In addition, the policy recommendations should provide more concrete steps towards achieving the larger goals outlined in the report.	The cross-sector icons show integration of recommendations across different sectors of the Plan. Additionally, the revised Statewide Principles in the Introduction of the Plan show how strategies from various state agencies are working together to contribute to seven high-level, overarching themes. Finally, revisions to the May draft of Safeguarding incorporated cross-sector collaboration and input; for example, the authors of the Forest and Biodiversity chapters worked together to better integrate their strategies, as did the authors of the Public Health and Emergency Management chapters.	Climate Justice chapter; Statewide Principles in Introduction

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
APEN, CPEHN, Human Impact Partners, Greenlining	Identify actions that meet goals of climate mitigation and climate adaptation, especially in vulnerable communities. Projects funded by the Greenhouse Gas Reduction Fund can have adaptation co-benefits for vulnerable communities. The state must seek funding opportunities from private and public sources to make meaningful climate adaptation investments. Sectors should implement actions that can simultaneously reduce GHG emissions and also make vulnerable communities more resilient.	These important concepts are elevated in three of the six Statewide Principles in the Plan's introduction, and are woven throughout other chapters of the Plan. Principle 2 states to "Partner with California's most vulnerable populations to increase equity and resilience through investments, planning, research, and education." Additionally, Statewide Principle 5 emphasizes promoting natural infrastructure solutions that also reduce greenhouse gas emissions. Statewide Principle 6 says, "Where possible, the state should also work with partners at all levels of government to integrate climate adaptation and mitigation efforts."	Statewide Principles 2, 5, and 6
APEN, CPEHN, Human Impact Partners, Greenlining	Expand tools to identify vulnerable communities: The Safeguarding Plan requires a system to identify vulnerable populations and communities that are disproportionately affected by climate change impacts. Suggested tools to use as a starting point include: CalEnviroScreen, the Environmental Justice Screening Method and the Health Disadvantage Index (http://phasocal.org/ca-hdi/) to identify communities vulnerable to climate change threats. Factors that should be included to capture climate vulnerability include projected climate impacts, renters, linguistic isolation, lack of access to vehicles, air conditioning ownership, health insurance coverage, elderly living alone, impervious surfaces, unemployment, and outdoors workers. The State must use accurate data that is updated at least every 2 years as they develop climate adaptation policies.	We agree; better identifying vulnerable populations and communities disproportionately affected by climate change impacts is included in the Climate Justice chapter within Goal 2, "Identify the most vulnerable communities to climate change to prioritize initiatives and build local community-based capacity" and in chapter conclusion, "Measure Progress in a Transparent Way." Thank you for recommending specific tools to use.	Climate Justice chapter

Source	Comment Summary	Response	Edit Location
APEN, CPEHN, Human Impact Partners, Greenlining	Safeguarding California must prepare for unintended adverse consequences and include adaptive management strategies. Every sector plan must incorporate strategies that prepare for unintended negative consequences, such as displacement, that may occur when vulnerable communities are forced to relocate during extreme weather events. A model to follow is the Scoping Plan that ARB is required to prepare under AB 32 to explain California's approach to climate mitigation. The Plan requires ARB to evaluate the environmental and public health impacts of the Scoping Plan. Safeguarding California needs to include a similar mechanism that assesses impacts resulting from climate adaptation policies. Mechanisms such as adaptive management strategies can help address unintended negative impacts and allow for flexible changes in the future.	Thank you for your comment. Although these comments are not explicitly discussed in every chapter, anti-displacement is discussed in the Land Use chapter introduction and in L-2.9 and L-5.6. The Public Health chapter discusses anti-displacement in the introduction to P-3, and P-7.5 was added to incorporate these comments: "Evaluate negative health consequences of adaptation strategies that may worsen public health outcomes by exacerbating pollen, gentrification and displacement, vector borne disease, indoor air quality, or other impacts."	P-7.5
California Association of Sanitation Agencies (CASA)	We want to emphasize the interconnectivity of wastewater systems with water systems and the opportunities of wastewater agencies as being significant renewable energy providers, suppliers of a marketable renewable organic fertilizer/soil amendment product, and suppliers of a sustainable (drought-proof) water supply. In many cases, all that is lacking is the funding to develop the appropriate infrastructure and technological support to make these projects a reality.	Thank you for your comment. The water-energy connection is noted in the Water, Energy, and Agriculture chapters.	N/A
CADMUS	Opportunities associated with investing in adaptation actions need to be emphasized to illustrate the immense benefits of resilient communities: The Plan's introduction and body focuses heavily on the risks and vulnerabilities associated with climate change. However, there is very little discussed about the economic, social, and environmental opportunities associated with investing in adaptation for long-term healthy and resilient communities. We recommend that along with identifying the various risks associated with our changing climate in the great state of California, the immense opportunities (e.g., new markets, technological advances, healthier communities, etc.) that exist when we invest in adaptation actions.	This update is a roadmap showing how California's state government is taking action to respond to climate change. Many sections speak not only to the opportunity, but the necessity of revising how communities are engaged around planning to respond to climate impacts. A new supplementary document titled "Safeguarding California in Action" shows what successful State investments in adaptation look like on the ground.	"Safeguarding California in Action" document

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
CADMUS	Identifying and prioritizing financial resources and incentives for action would strengthen the plan and its transparency: it is not clear how the next steps or ongoing actions outlined in the plan have or will be funded and through what source. Perhaps that's yet-to-be-determined, but it would be helpful if in an Appendix, there was a matrix that aligned the ongoing actions with the funding sources so the financing of adaptation is transparent. Often times, funding for adaptation is not a standalone source, instead it is incorporated into other existing programs or policies. We prefer this as it helps to ultimately institutionalize climate change into ongoing activities that need to consider the impacts. However, it would help to include a list of programs that fund these actions to illustrate not only the integration of climate into programs and projects, but also the overall return on investment over time.	We agree with your statements that funding for adaptation is not a standalone source, and that many of the funding sources for the recommended next steps are yet-to-be-determined. Funding sources for adaptation projects will be identified in the Adaptation Clearinghouse through the Office of Planning and Research.	N/A
CADMUS	We recommend changing this sentence in the Executive Summary since the report focuses on adaptation only (not mitigation) "This document… is a programmatic survey across state government of what California is doing to adapt to climate change, what needs to be done, and how we will achieve those goals."	We emphasize throughout the plan that the focus is on adaptation, not mitigation.	N/A
CADMUS	Climate needs to be considered in the context of other shocks and stresses to illustrate co-benefits: the current draft plan focuses very heavily on climate change in isolation and how it will affect each sector. Climate change exacerbates existing and future shocks and stresses so the actions that are included in the plan should be considered in the context of other shocks and stresses such as power grid failure, physical and cyber security attacks, aging populations, lack of social inclusion and affordable housing, etc. It's possible to do this by developing scenarios that incorporate climate considerations into real-life situations, which will help to identify concrete actions that will provide co-benefits when implemented.	These types of emergency scenarios are under the purview of the Office of Emergency Management, and are incorporated in documents such as the State Hazard Mitigation Plan. California's Fourth Climate Change Assessment includes many projects that implement this approach to strengthen the State's resilience.	N/A

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
CADMUS	California uses climate science for action, but the sequence of the state climate assessments and the state adaptation plan updates is misaligned: it's our understanding that California conducts a state climate change assessment every 4-5 years while the adaptation plan updates occur every 3 years. Is there a way to align the climate change assessment findings/reports to occur prior to the plan updates so that the latest science can truly inform the latest state adaptation plan? We helped to make this happen for the Federal government so that each Federal Agency's Adaptation Plan would be submitted to the Council on Environmental Quality and Office of Management and Budget a year after the National Climate Assessment (NCA) was released so the Agency Adaptation Plans would be informed by the latest information from the NCA. For more details on the sequence of this, see Section 5(b) of Executive Order 13653, Preparing the Unites States for the Impacts of Climate Change: https://sftool.gov/learn/annotation/427/executive-order-13653-preparing-united-states-impacts-climate-change-archived.	Thank you for your comment. The next update for Safeguarding California will use science from the Fourth Climate Change Assessment that is released in summer 2018.	N/A
CADMUS	There is a need for cross-sectoral chapters (or a section that describes how the sectors are incredibly interdependent): given the fact that climate change impacts systems, it is critical that California consider the cross-sectoral and interdependent actions needed to prepare for and adapt to its ever-changing climate. For example, a cross-sectoral chapter on the energy-water-land nexus would help to integrate these sectors more effectively and identify how they're working collaboratively to identify risks and promote market opportunities for sustainable and resilient solutions.	The new cross-sector icons show integration of recommendations across different sectors of the Plan. Additionally, the new statewide principles in the Introduction of the Plan and the Climate Justice chapter show how strategies from various state agencies are working together to contribute to seven high-level, overarching themes. Finally, the examples within the call-out boxes for each chapter highlight how on-the-ground adaptation work crosses sector boundaries. We think that this cross-sectoral integration helps show how different areas of the Plan interact while keeping it at an approachable length.	Cross-sector icons throughout the Plan; Statewide Principles; Climate Justice chapter; Adaptation examples

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
CADMUS	Actions related to education and training are lacking and should be integrated throughout each sectoral chapter: our current and next generation leaders will need to be educated and trained on policy, technology, legal, social, scientific, and other areas so critical to effective adaptation actions. With every action associated with a sector, it is critical that educational and training opportunities are also incorporated to ensure that the transition from the old way of planning communities where stationarity once existed and to the new way of planning communities where stationarity is dead. Our climate is getting hotter, wetter, and drier; extreme events are occurring in higher frequencies and intensity; and seas are rising. Meanwhile, our state population is growing, we have clusters of economic disparities, globalization is increasing, and we face other challenges to consider. Education and training are essential.	We agree that education and training opportunities are important; thus, these are integrated in the Emergency Management (EM-2.5), Land Use (L-2, L-4), Public Health (throughout), Transportation (T-5), Biodiversity and Habitat (B-6), Forest (F-1, F-5, F-6), Ocean and Coast (O-5), Water (W-7), and Parks, Recreation, and California Culture (PC-6) chapters. Education and training are also incorporated in the new Climate Justice chapter (Goal 1).	EM-2.5, PC-6, Climate Justice chapter
CADMUS	Clear collaboration and partnerships with the private sector and other non-governmental entities on actions is missing: in the current draft, there is the occasional mention of collaborating with the private sector and other non-governmental entities – mostly in the description of the Technical Advisory Group. We recommend that there be clear actions where the private sector and other non-governmental entities can play a role in adaptation.	Since Safeguarding California aims to show how state government is taking action to respond to climate change across the state, it does not go into detail about the role of non-governmental or private sector entities. While we agree that these entities will be crucial in helping adapt to and prepare for the impacts of climate change, it is outside the authority of state government to dictate how they will do this.	N/A
CADMUS	Prioritizing actions that serve adaptation and mitigation purposes would be ideal: Given the importance of investing in both adaptation and mitigation actions these days, it would be helpful to prioritize actions that serve to both reduce greenhouse gas emissions and protect communities, infrastructure, and organizations from the impacts of climate change. This nexus should also help to identify other co-benefits to investing in adaptation and mitigation actions.	This important idea is included in the final sentence of statewide Principle 6, and woven throughout other chapters of the Plan: "Where possible, the state should also work with partners at all levels of government to integrate climate adaptation and mitigation efforts."	Statewide Principle 6

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
CADMUS	Citations are critical and are currently missing throughout: Given this update is based on research conducted through California's Climate Change Assessment process, it would behoove the authors of this report to include specific citations throughout the document so it is clearly backed up by concrete data. The investments were already made to use climate science for action – why clearly connect it and give the science credit and transparency through citations?	We agree; citations were added back into the final version of the Plan.	Citations in footnotes throughout Plan
Santa Ana Watershed Protection Authority	The Vision and Organization Section does not have a clearly defined and crafted Vision. This should be addressed in the update.	These sections were edited to be clearer and more defined in the final version.	Introduction
Santa Ana Watershed Protection Authority	CA-6 should be incorporated and emphasized throughout the remaining sector chapters. It would be very powerful for each recommendation to be paired with a recommendation from another section.	The comprehensive strategies were replaced with statewide principles in the final version of the Plan. Principle 6 still addresses this comment, and it is also incorporated explicitly in most of the chapters: see E-4, L-2, P-6, F-7, O-6, PC-6, T-4, and T-5.	Statewide Principle 6
Thomas Phillips	However, the Plan does not consider this life-cycle issue for the building sector, where design decisions we make now can determine the building's performance for the next 50-100 years. Other countries, cities, and the USGBC LEED standards are already moving toward climate adapted, zero-carbon buildings that avoid overheating during heat waves and are livable during power outages. In addition, the current Passive House design, which the Title 24 net zero energy standards will emulate by 2020, is vulnerable to overheating in hot regions when future climate conditions are not considered.	The introduction to P-7 incorporates some information on building design and passive cooling techniques to decrease heat-related deaths and illnesses. Other parts of this comment are important considerations that were not explicitly included in the final Plan because they are more related to climate change mitigation than adaptation, are beyond the specificity of the Plan, or are outside of the scope of authority of current State agencies that author the Plan.	N/A

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
CPEHN, Human Impact Partners, Greenlining	Ensure proper compensation for community input. Community members are experts in their own right. They understand and have solutions for how climate change will impact their lives, yet they are often not given the respect or recognition they deserve. Moving forward, the state should offer compensation for community participation in meetings or other input sessions. In addition, the state should include requirements for future grant or contract opportunities to include working with community based organizations, community residents, or other community engagement activities to ensure that those most impacted are better engaged in this process. Finally, true community participatory research (run by community) should be prioritized and justly compensated to help improve the data available and better inform recommendations.	Thank you for this comment. While community input is a common theme emphasized throughout the plan, Safeguarding California is not intended to serve as a toolkit to guide agencies in properly conducting community input. The Governor's Office of Planning and Research (OPR) is developing guidance to state agencies on implementing Executive Order B-30-15, which emphasizes the importance of community engagement. We will work with OPR to support this important guidance so that the recommendations cited above are implemented with proper community engagement.	N/A
CPEHN, Human Impact Partners, Greenlining	Make future resources contingent upon implementing this report. While this report itself does not have resources attached to its goals and policies, billions of dollars are provided for the implementation of state and local projects for housing, development, transportation, and other infrastructure projects every year. Yet, at times, these projects are not tied to climate adaptation projects or goals. Therefore, moving forward, we must ensure that our state adaptation goals are also tied to the resources provided for infrastructure development and improvement, with an emphasis on targeting the needs of vulnerable communities and identifying specific funding for community efforts. In addition, agencies should not fund projects that may result in extreme harm to vulnerable communities; they must find ways to reduce harm such as including adaptive management strategies. The adverse impacts review process should be integrated into the policy planning process.	We agree. Executive Order B-30-15 directed State agencies to integrate climate change into all planning and investment, including accounting for current and future climate conditions in infrastructure investment. OPR was directed to convene a Technical Advisory Group to develop guidance to support implementation of the Executive Order, "Planning and Investing for a Resilient California." See: http://opr.ca.gov/planning/icarp/resilient-ca.html. This statute will help ensure that all state investments and development are tied to climate adaptation.	N/A

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
CPEHN, Human Impact Partners, Greenlining	Strengthen transparency and accountability processes to measure achievements under the report: the success of the goals of this report are contingent upon strong forward movement by all sectors and improved systemic practices towards climate adaptation and mitigation. Yet the audience of the report is unclear and should be clarified to ensure everyone understands who to hold accountable. In addition, it is critical that the report emphasize how sectors will be held accountable for achieving the goals through an ongoing, regular feedback process as well as how agencies will improve collaboration with each other, local governments, and community environmental justice efforts. Finally, rather than only connecting with community on updates of this report, the state should identify opportunities to regularly connect with communities, especially at the local and regional levels, to track and monitor progress, best practices, and provide updates to community partners, organizations, and other interested parties. State and local agencies and departments should also identify opportunities to conduct more effective community outreach including greater language diversity; more inclusive messengers such as youth; and more relevant, consumer friendly information.	For accountability and to track progress on adaptation implementation, the Natural Resources Agency will review identified actions from the 2009, 2014, and 2016 state adaptation strategies as part of its 2018 report on the implementation of Safeguarding California per AB 1482. Appropriate agencies will also report on each of the next steps identified in Safeguarding California. We agree about the importance of connecting with communities regularly instead of just as the report is updated. We think that the Integrated Climate Adaptation Program's Technical Advisory Council through the Office of Planning and Research, which has representatives from local, regional, and tribal organizations and nonprofits, will be a conduit for gaining ongoing community collaboration and input on state adaptation policy.	Tracking Progress
Port of San Diego	The District supports the many policies and strategies in the Plan to provide education and guidance to local jurisdictions and agencies regarding climate change adaptation. The cost of developing resilience to climate change is significant. Of importance to agencies faced with infrastructure planning and investment, further guidance regarding financial models and solutions to fund infrastructure is necessary. The District encourages California agencies to provide financial guidance, which may include but not be limited to grant funding opportunities, public-private partnerships, tax incentives, and other financial mechanisms to support both structural and nature-based infrastructure solutions.	Thank you for your comment. The Adaptation Clearinghouse through the Office of Planning of Research will include guidance on financial resources for climate adaptation. Please see: https://www.opr.ca.gov/clearinghouse/adaptation/.	N/A

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
Union of Concerned Scientists	The Update should clarify which state agency will be taking on each Next Step and Ongoing Action including a specific timeline for initiation and completion.	Responsible agencies are not identified for most next steps in the plan to facilitate cross-sector and interagency collaboration and accountability in the plan. The Natural Resources Agency will work with sector leads to ensure that multiple agencies report on progress for all relevant next steps.	Tracking Progress
Union of Concerned Scientists	Recommendation E-5: The CEC established an Energy Advisory Group to provide user feedback on Cal-Adapt. It should replicate this effort for other sectors which would likely require new non-energy restricted funding sources. A "Next Step" could include user feedback beyond the energy sector and the resources to support these efforts. Additionally, it would be useful for the Update to describe how Cal-Adapt (and the state) will interact with these other efforts in a complementary and efficient manner. This might include an analysis or screen of existing tools to inform the public and other practitioners.	Thank you for this comment. These suggestions for E-5 fall outside of the energy focus of the chapter. One of the "Key Next Steps to Advance Climate Science" in the Introduction to the Plan states: "Secure dedicated funding and support for Cal-Adapt.org to keep it updated, comprehensive, and useful for decision-makers and planners." User feedback will be a crucial part of fulfilling this next step.	Key Next Steps to Advance Climate Science in Introduction
Pacific Forest Trust	In the introduction to the Natural and Managed Resource Systems Chapter, emphasize need for coupling adaptation and mitigation efforts.	This is mentioned in the Introduction to the Plan and within each chapter for the Natural and Managed Resource Systems, but not in the introduction. It is also the focus of Statewide Principle 5.	N/A
Union of Concerned Scientists	Add bullet to Key Next Steps: "Ensure that future California Climate Change Assessments consider input from local and regional practitioners concerning their specific research and information needs."	Thank you for your comment. We think this will be a key consideration during the development of regional-specific vulnerability assessments through the Fourth California Climate Change Assessment.	N/A
Union of Concerned Scientists	Recommendation CA-1: update the description of the Technical Advisory Group (TAG) and Guidance Document to reflect that it was prepared by the Governor's Office of Planning and Research with guidance and input from TAG (not authored by TAG). Additionally, the guidance has not yet been released and the text should be changed to say that its release is forthcoming. The list of steps to build a resilient California under EO B-30-15 should include prioritizing natural infrastructure solutions and solutions that reduce greenhouse gas emissions and increase climate resilience.	For the final version of the Plan, the California recommendations were replaced with statewide principles.	Statewide Principles in Introduction

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
Union of Concerned Scientists	Recommendation CA-6: The Sierra region should be added to the list of regional collaboratives on page 15.	For the final version of the Plan, the regional collaboratives are no longer listed out and the California recommendations were replaced with statewide principles.	Statewide Principles
SoCalGas	The plan identifies numerous working groups and task forces that will help accomplish the important goal of creating a more resilient and sustainable energy sector. SoCalGas encourages CNRA to work closely with utility partners to assess existing implementation plans as well as future opportunities for collaboration.	We appreciate the opportunity to participate in the Energy Sector Adaptation Working Group with state agencies and utility partners.	N/A
Roy Thun	The Plan highlights the need to weigh social, economic and environmental factors, but does not exhibit a balanced and integrated approach to achieve these metrics within the two broad policy umbrellas of Social Systems and the Built Environment, and Natural and Managed Resource Systems. The lack of integration across categories and policy areas creates a high potential for implementing recommendations that are inefficient and in some instances at cross-purposes with each other. Prior to finalizing, the Plan should be scrutinized from a holistic perspective and revised to reflect one synergistic strategy to address adaptation needs that work in consort across categories.	The Plan is divided into two broad policy umbrellas to make the information easier to communicate, and to show the need for these sectors to work together as part of larger integrated systems. This is not meant to entail in any way that adaptation is implemented only within these two siloes. The new cross-sector icons in the final version of the Plan show the integration of adaptation strategies across chapters.	Cross-sector icons throughout the Plan
Roy Thun	The Plan recognizes the tremendous financial costs to address infrastructure and other adaptation need within the state. The Plan gives little consideration to the potential level of economic hardship to communities who may become financially burdened with compounding state, county and local components of the Plan's recommendations. Clarity should be provided as to how the state foresees funding implementation of the recommendations of the Plan, and to what extent county and local governments would be expected to shoulder these costs.	Building technical and financial capacity for addressing climate adaptation is a theme that is discussed throughout the Plan. Recommendation 6 in the Land Use and Community Development chapter, "Provide financial assistance to promote investment in climate adaptation through land use and community development," recognizes the costs of adapting to climate change for local governments and presents strategies for the State to help ameliorate these costs. Safeguarding California is only meant to provide an overview of what state government is doing and will do to adapt to climate adaptation; there is nothing in the Plan that compels local governments to take on new adaptation actions.	N/A

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
Santa Ana Watershed Protection Authority	It would be a valuable exercise to survey across the strategies for linkages between efforts in different categories. The resulting map could support stronger agency collaboration at the state scale.	We agree, and hope the new cross sector icons show the linkages between efforts in different categories.	Cross-sector icons throughout the Plan
Sierra Business Council	This comment supports CA-5 to "Prioritize natural infrastructure solutions, actions that both build climate preparedness and reduce greenhouse gas emissions, and projects that produce multiple benefits."	Thank you for your support of this recommendation; it is now listed as Statewide Principle 5.	Statewide Principle 5
Union of Concerned Scientists	Introduction: Recognizing how high level decision making can become siloed, the description on page 4 should note that the state encourages cross-sectoral collaboration in implementation of each sector's Ongoing Action plans.	The importance of collaboration across governmental entities is discussed in statewide Principle 6: "Promote collaborative adaptation processes with federal, local, tribal, and regional government partners."	Statewide Principle 6
Port of San Diego	The 2017 Update to the Plan focuses primarily on Social Systems, the Built Environment, and Natural and Managed Resource Systems (page 4) and does not recognize the distinctive nature of ports and the District – physically, statutorily, and economically. The District appreciates the efforts to provide strategies for protection of natural resources and disadvantaged communities, but believes there is an imbalance as to the application of strategies to protect important economic drivers, such as ports. The District requests that the 2017 Update to the Plan include additional strategies focused on protecting ports that contribute substantial economic benefits to the region and the state and that provide a more balanced approach to the overall framework.	Ports are explicitly discussed in the Transportation (T-1.1) and Oceans (O-1.7, O-1.8) chapters, and critical infrastructure is emphasized throughout the Plan.	T-1, O-1
The Nature Conservancy	Throughout the SCP, additional actions necessary to make further progress on adaptation are called out, but few specific commitments are made. The SCP should clarify who is responsible for each of these actions, a timeline, and the source of funding or capacity to get these actions underway.	Responsible agencies are not identified for most next steps in the plan to facilitate cross-sector and interagency collaboration and accountability in the plan. The Natural Resources Agency will work with sector leads to ensure that multiple agencies report on progress for all relevant next steps.	N/A

Source	Comment Summary	Response	Edit Location
The Nature Conservancy	TNC is pleased to see the inclusion of metrics and indicators in the SCP. Both are essential to track progress as the state implements this plan. TNC recommends that you develop the indicators more fully and align them with the Environmental Goals and Policy Report as you prepare the final draft. In additions, the final Plan should specify that metrics and indicators be updated on the three-year cycle for SCP. This alignment between the strategies is essential to ensure efficient use of resources and avoid duplicative efforts. Additionally, metrics for each sector should track the directives in EO B 30-15 and AB 1482 (Gordon), including prioritizing natural infrastructure and focusing on vulnerable populations.	Although we did not have the capacity to work more on metrics and indicators for this Update to Safeguarding California, we agree that they could serve an important role and will keep in mind your suggestion going forward.	Metrics appendix
The Nature Conservancy	As directed by EO B-30-15 and AB 1482, specific direction to give priority to natural infrastructure solutions should be incorporated throughout the document. Unfortunately, the Ocean and Coastal Chapter is the only chapter the explicitly references "natural infrastructure." TNC recommends that each sector include a discussion of natural infrastructure opportunities and highlight these strategies to ensure they are prioritized.	We agree that natural or green infrastructure/ nature-based solutions are a crucial topic. Natural infrastructure is explicitly discussed in statewide Principle 5, E-3, P-6 (green infrastructure), T-2, T-4, B-1, F-5, O-2 (nature-based projects), W-8, PC-1, PC-2, and PC-3. Language was added to the final version of the Plan to better emphasize natural infrastructure in T-4, B-1, O-2, and other sections.	T-4, B-1, O-2
The Nature Conservancy	Future resources should be contingent upon implementing this report. While this report itself does not have resources attached to its goals and policies, billions of dollars are provided for the implementation of state and local projects for housing, development, transportation, and other infrastructure projects every year. Yet, at times, these projects are not tied to climate adaptation projects or goals. Therefore, moving forward, our state adaptation goals should be tied to the funding for infrastructure development and improvement. Emphasis should be placed on the needs of vulnerable communities and identifying specific funding for community efforts.	We agree that all state projects should consider climate change adaptation, and this is required by statute: Executive Order B-30-15 directed State agencies to integrate climate change into all planning and investment, including accounting for current and future climate conditions in infrastructure investment. OPR was directed to convene a Technical Advisory Group to develop guidance to support implementation of the Executive Order, "Planning and Investing for a Resilient California." See: http://opr.ca.gov/planning/icarp/resilient-ca.html. We also agree that emphasis should be placed on the needs of vulnerable communities; the importance of this topic	N/A

Source	Comment Summary	Response	Edit Location
		led us to bring an overarching Climate Justice chapter to the beginning of the Plan.	
The Nature Conservancy	In addition, the document should clarify how the state will achieve coordination between state agencies, local municipalities, and others working on adaptation issues. The Plan should encourage greater collaboration among state and local agencies and departments on developing recommendations. In addition to working across sectors to tackle these impending challenges, state and local agencies should be encouraged to work together to inform goals and recommendations, especially given local governments' planning authority. State and local governments should also share data and other useful information helpful in developing more informed recommendations.	The importance of coordination between state agencies, local municipalities, and others working on adaptation issues is emphasized in statewide Principle 6. This Principle also lists the strategies within Safeguarding California that will help fulfill it.	Statewide Principle 6
The Nature Conservancy	The draft plan contains a suite of "Recommendations," not targeted at any specific entity. The final Plan should contain "Priorities" or "Commitments," rather than Recommendations, underscoring the importance of achieving them. These Priorities should be assigned to a specific responsible entity who is primarily accountable for achieving them. In the absence of this, the path to implementation is unclear. The Nature Conservancy recommends that in the final plan, the CNRA strengthens the processes for transparency and accountability to effectively measure achievements under the report. The success of the goals of this report are contingent upon strong forward movement by all sectors and improved systemic practices towards climate adaptation and mitigation. Yet the responsible actors in the Plan are unclear and should be clarified to ensure everyone understands who to hold accountable for future efforts. In addition, it is critical that the report emphasize how sectors will be held accountable for achieving the goals through an ongoing, regular feedback process as well as how agencies will improve collaboration with each other, local governments, and community environmental justice efforts. Finally, rather than only connecting with the public through updates of this	Noted. Safeguarding California is meant to show what state government is doing to adapt to climate change, and to lay out a plan of how it will continue to adapt; it does not have the authority to make binding commitments. Responsible agencies are not identified for most next steps in the plan to facilitate cross-sector and interagency collaboration and accountability in the plan. The Natural Resources Agency will work with sector leads to ensure that multiple agencies report on progress for all relevant next steps. To increase transparency and accountability, the Natural Resources Agency will review identified actions from the 2009, 2014, and 2016 state adaptation strategies as part of its 2018 report on the implementation of Safeguarding California per AB 1482. Appropriate agencies will also report on each of the next steps identified in Safeguarding California. We hope that in the future, the Integrated Climate Adaptation and Resiliency Program Technical Advisory Council convened through the Office of Planning and Research can serve as a conduit to improve the connection between	Tracking Progress

Source	Comment Summary	Response	Edit Location
	report, the state should identify opportunities to regularly connect with communities, especially at the local and regional levels, to track and monitor progress, best practices, and provide updates to community partners, organizations, and other interested parties.	communities and State, local, regional, and tribal governments.	
The Nature Conservancy	TNC recommends creating a cross-sectoral strategy and establishing a workgroup to coordinate various state agencies and share staff resources and funding to promote state level adaptation work. This group should identify opportunities where cross sectoral work would enhance the resilience outcome and work with relevant state agencies to promote cross-sectoral collaboration.	There are several cross-sector groups collaborating on climate change adaptation. Within State government, the Safeguarding Climate Action Team coordinates adaptation actions across state agencies and departments. There are topic-specific Climate Action working groups that facilitate other inter-agency climate adaptation including: Coastal and Ocean Climate Adaptation Team; Interagency Forestry Working Group; Public Health Workgroup; Research Working Group; and Water Energy Working Group.	N/A
The Nature Conservancy	The Plan should identify health, equity, anti-displacement, and environmental justice solutions in each chapter. Each sector provides an important vision for moving forward, however, there is a lack of focus on the most vulnerable communities and the health impacts of climate change. Therefore, a recommendation going forward is to thread priorities such as health, equity, anti-displacement, and environmental justice through each of the sectors to ensure that there is a prioritization of action directed at the most impacted communities, those with the least resources to address climate change.	The new Climate Justice chapter pulls out the recommendations within various chapters that contribute to health, equity, and environmental justice. There are recommendations in the Climate Justice chapter from each of the following policy chapters in Safeguarding California. While we agree that some chapters should include more of an equity focus in future versions of Safeguarding California, the Climate Justice chapter does showcase that these topics are already a common thread in the current Plan.	Climate Justice chapter
The Nature Conservancy	The Plan should expand tools to identify vulnerable communities and update the data as new climate adaptation policies are developed. The Safeguarding Plan requires a system to identify vulnerable populations and communities that are disproportionately affected by climate change impacts. Suggested tools to use include: CalEnviroScreen, the Environmental Justice Screening Method and the Health Disadvantage Index1 to identify climate change threats.	We agree; better identifying vulnerable populations and communities disproportionately affected by climate change impacts is included in the Climate Justice chapter within Goal 2, "Identify the most vulnerable communities to climate change to prioritize initiatives and build local community-based capacity" and in chapter conclusion, "Measure Progress in a Transparent Way."	Climate Justice chapter

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
The Nature Conservancy	State agencies and departments should be directed to identify actions that meet goals of both climate mitigation and climate adaptation. Projects funded by the Greenhouse Gas Reduction Fund can have adaptation co-benefits for vulnerable communities. The state must seek funding opportunities from private and public sources to make meaningful climate adaptation investments. Sectors should implement actions that can simultaneously reduce GHG emissions and make communities more resilient.	We agree. This important idea is included in the final sentence of statewide Principle 6, and woven throughout other chapters of the Plan: "Where possible, the state should also work with partners at all levels of government to integrate climate adaptation and mitigation efforts."	Statewide Principle 6
The Nature Conservancy	In the next SCP update, the Natural Resources Agency should report on the work of the cross-sectoral strategy committee, discussed above.	Noted; thank you for your comment.	N/A
The Nature Conservancy	The Plan should generate a process to streamline permitting processes for natural infrastructure projects.	The Safeguarding California Plan does not address individual permitting process reform.	N/A
The Nature Conservancy	Safeguarding California must prepare for unintended, adverse consequences and include adaptive management strategies. Every sector plan must incorporate strategies that prepare for unintended negative consequences, such as displacement, that may occur when vulnerable communities are forced to relocate during extreme weather events. A model to follow is the AB 32 Scoping Plan, which requires ARB to evaluate the environmental and public health impacts of the Plan. Safeguarding California needs to include a similar mechanism that assesses impacts resulting from climate adaptation policies. Mechanisms such as adaptive management strategies can help address unintended negative impacts and allow for flexible changes in the future.	Thank you for your comment; although these consequences and strategies are not explicitly discussed in every chapter, anti-displacement is discussed in the Land Use chapter introduction and in L-2.9 and L-5.6. The Public Health chapter discusses anti-displacement in the introduction to P-3, and P-7.5 was added to incorporate these comments: "Evaluate negative health consequences of adaptation strategies that may worsen public health outcomes by exacerbating pollen, gentrification and displacement, vector borne disease, indoor air quality, or other impacts."	P-7.5
The Nature Conservancy	The SCP should recommend that the state create a Climate Service Center to provide technical guidance and staff support state departments and regional and local governments to prepare vulnerability analyses and integrate them into local plans and ordinances.	Thank you for this suggestion. While there currently are not resources available for a Climate Service Center, the Integrated Climate Adaptation and Resiliency Program through the Office of Planning and Research will serve a similar purpose of providing technical assistance to local and regional governments.	N/A

GENERAL COMMENTS

Source	Comment Summary	Response	Edit Location
The Nature Conservancy	The following text is recommended: "Prioritize natural infrastructure over engineered actions, where feasible." Agencies should establish a preference for green or nature-based responses to the maximum extent feasible including restoration, conservation and projects on agricultural land, forests, wetlands, and grasslands. This policy is a good mechanism to catalyze cross-sector, cost-effective action. Green responses can provide many benefits in addition to reducing risk to people and resources from climate driven extreme events. For example, green responses like forest conservation can provide benefits to the atmosphere and help regulate the climate by reducing or avoiding emissions of greenhouse gas and increasing carbon sequestration over time as the trees continue to grow while also protecting drinking water supply and quality. Green responses can provide economic, recreational, habitat, and cultural benefits and are often cheaper and quicker to implement then engineered, or grey, responses. Green responses can also be used as a first step, delaying the time and the extent of an eventual grey response. Priority should be given to multi-benefit actions.	Thank you for your comment. We think that the text we included in statewide principle 5 or in O-2 conveys a similar message.	N/A
Public Workshops	One of the most consistent comments across the different regional workshops had to do with the confusion caused by labeling policies as recommendations. Additionally, the titles and organization of the sections "Next steps" and "Ongoing actions" was confusing both timewise and hierarchically. A solution would be to use more universal policy names and labels for the different sections so it is easier to get feedback from different stakeholders and interests groups.		N/A
Public Workshops	It is also important to better time the release of future updates or other instances of the California's Climate Adaptation Strategy in order to have more time to get feedback from all stakeholders. We received several comments and questions related to the efficacy of this round of workshops since it was not clear how much this feedback would make it into the final version of the 2017 Safeguarding California Update. It is important to send a clear message to all constituencies that their input is valuable and that their opinions will be read and considered at the time of drafting the final version of this policy document.		N/A
Public Workshops	One comment that had a strong impact during the conversation with local representatives in the Coachella SGC workshop was related to the work that the CNRA has in issues of environmental justice and the influence of these work on local communities. However, unlike Cal EPA, CNRA does not have an appointed officer, not a designated budget for working on EJ issues. The commentator pointed out that this lack of administrative support was noticed by the constituencies and they encouraged the agency to prioritize this issue within their budget.		N/A

GENERAL COMMENTS

Source	*Comment Summary*	*Response*	*Edit Location*
Public Workshops	Possibly the most recurrent comment throughout all the workshops and in most of the breakout sessions was related to the lack of vertical communication between state and local government agencies. This call for better communication channels can be understood as local agencies requiring to have a more fluid line of communication with the State agencies and also obtain more information of existing programs and opportunities for their jurisdictions. At the same time, local government agencies acknowledged a significant lack of coordination with other local government agencies, both within their district and more noticeable, with agencies outside their jurisdiction. These agencies nevertheless, alluded that the main responsible to coordinate these horizontal channels of communications are the State agencies.		N/A
Public Workshops	The importance of having available funding, technical assistance, and regional monitoring for climate adaptation planning was another comment present in every segment and Q&A session of the workshops. A series of examples and potential solutions were presented during the breakout sessions related to the specific topic that was debated in that session.		N/A
Public Workshops	The chapter for the transportation sector received a series of comments associated to the need for the State of California to evaluate that sector more holistically, considering in their analysis all modes of transportation and not concentrate most of the efforts around freeways and railroads. Comments emphasizing the lack of active involvement by the State agencies on incentivizing other forms of transportation, such as bicycles were regularly brought up during the workshops. A representative of a local agency in San Francisco did not like that the only instances that bicycles were mentioned in the 2017 SGC Update were related to educating the population on the risks associated to riding a bicycle. This approach shows a lack of real interest on the State to seriously incentivize the use of alternative modes of transportation in California.		N/A

Emergency Management Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
ARCCA	The Oroville Dam emergency highlighted the importance of local emergency planning personnel communicating directly with the disabled community to understand their needs. The lack of such coordination during the emergency and in emergency plans has been highlighted in several news reports following the event. We recommend state guidance to call out such coordination as an important next step.	We agree and have included objectives in the Homeland Security Strategy to ensure that this communication link is established. Further, all homeland security objectives will also be incorporated broadly into other area (e.g. State Hazard Mitigation Plan and State Preparedness Report).	N/A
ARCCA	Intro: In the third paragraph, we recommend explaining what "incorporate climate change" entails. Particularly for those who are not as familiar with climate change adaptation, it would be helpful to discuss the scope of this endeavor.	We are incorporating climate change into all aspects of emergency management as outlined in the recommendations in this chapter. We prefer to explain what incorporating climate change entails within the bullets for each recommendation.	N/A
ARCCA	Consider moving EM-1.3 to EM-3 because it is more planning oriented. Also, having specific guidance would be very helpful, especially for jurisdictions that are not yet engaged in adaptation work.	This change was completed.	Moved from EM-1 to EM-3
ARCCA	EM-1.4 - This is the most important and relevant next step under this recommendation, yet it is too vague and does not provide sufficient guidance. Please consider this next step going beyond supporting asset risk assessment to include pursuit of research regarding climate impacts, identification of vulnerable populations and other risk factors, as well as the physical risks to essential services and facilities.	We added the requested language to EM1.4, which is now EM1.3.	EM-1.3
ARCCA	EM-1: Consider including information about the ongoing work and data development of the California Fourth Climate Change Assessment.	We added language in EM-1 to reflect coordination with relevant data, tools, and research from CA's 4th Assessment. For document brevity, specifics were not listed.	EM-1.3
ARCCA	EM-1: Overall, there seems to be a disconnect between the overarching recommendation and the next steps. A greater focus on data development, acquisition, and standardization, and tool deployment would strengthen this section.	We added language in the next steps to ensure that data development, acquisition, standardization, and tool development are sufficiently addressed.	EM-1 next steps

Source	Comment Summary	Response	Edit Location
LCJA, CRPE, CAA, CVAQC	Disadvantaged communities already lack basic water, wastewater, stormwater, transportation, and electricity infrastructure, all of which make emergency response and mitigation difficult. California climate change adaptation strategies must acknowledge these infrastructure needs and consider investment solutions to fulfill them. We recommend that the Draft include a strategy focusing on directing financial, administrative and capacity-building resources to disadvantaged communities that are currently much farther behind than the rest of the state.	We recognize the necessity to understand disadvantaged communities, their needs, and climate related impacts. Before strategies can be developed to redirect resources or understand the current capacity for climate adaptation, a statewide gaps analysis is needed to determine where disadvantaged communities are located and their respective needs for water, transportation, electricity and climate conditions.	N/A
CADMUS	We recommend that there be some mention of climate change needing to be considered in the context of other shocks and stresses. Climate change exacerbates existing and future shocks and stresses so the actions that are included in the Emergency Management chapter of the plan should be considered in the context of other shocks and stresses such as power grid failure, physical and cyber security attacks, aging populations, lack of social inclusion and affordable housing, etc. It's possible to do this by developing scenarios that incorporate climate considerations into real-life situations, which will help to identify concrete actions that will provide co-benefits when implemented. Emergency Managers and Hazard Mitigation Planners plan for and exercise a variety of non-climate related shocks that could incorporate climate shocks (e.g., heatwaves, floods, storm surge, etc.) and stresses (e.g., higher temperatures, sea level rise, changing precipitation patterns, etc.) into their scenarios and tabletop exercises.	We agree and have included objectives and scenarios in the Homeland Security Strategy that specifically address climate change and how it exacerbates other shocks and stresses such as power grid failure, physical and cyber security attacks, etc. Further, all homeland security objectives will also be incorporated broadly into other programs and plans (e.g. State Hazard Mitigation Plan and State Preparedness Report).	N/A
CADMUS	Recommendation EM-3 Ongoing Actions: We believe that CalOES conducts exercises on a regular basis. If they are already conducting climate exercises or incorporating climate considerations into their regular exercises, this should be included as an action. If they are not, we recommend this be added as a next step for consideration.	We agree and have added language to ensure that climate considerations are included in future exercises (if they are not already).	EM-3.1
CADMUS	Recommendation EM-2: Ongoing Actions: On the last bullet of this recommendation, we recommend that the action incorporate education to read as follows: "Expand training and education opportunities to include…"	We agree; this change was made.	EM-2 last bullet

Source	Comment Summary	Response	Edit Location
CADMUS	Recommendation EM-4: Its critical to understand the current capacity for communities to adapt to a changing climate. However, it's not clear whether this recommendation includes information from a capacity needs assessment to understand the baseline capacity of California to provide access and functional capacity to those who are most vulnerable to changing climatic conditions. We recommend that an action to better understand the local capacity and gaps of communities, whether it's being provided by the government, private sector, NGO, university, or other entity, it's important to understand the existing capacity to adapt and what gaps need to be filled and where.	We recognize the necessity to understand disadvantaged communities, their needs, and climate related impacts. Before strategies can be developed to redirect resources or understand the current capacity for climate adaptation, a statewide gaps analysis is needed to determine where disadvantaged communities are located and their respective needs for water, transportation, electricity and climate conditions.	N/A
SoCalGas	The plan identifies numerous working groups and task forces that will help accomplish the important goal of creating a more resilient and sustainable energy sector. SoCalGas encourages CNRA to work closely with utility partners to assess existing implementation plans as well as future opportunities for collaboration. For example, we support efforts to improve emergency preparedness through interagency coordination, and to that end SoCalGas offers its expertise to advance the goals of the Cal OES Climate Change Working Group mentioned in Recommendation EM-2, or any other team or task force that would benefit from our participation.	There are several utility-specific planning and response efforts, as well as planning efforts that include utilities, which may be more appropriate participation avenues for a utility company (e.g. ESF 12 and CUEA).	N/A
ARCCA	Consider mentioning the State's Tree Mortality Task Force and related emissions to potential wildfire or decomposition of 100 million dead trees.	The Tree Mortality Task Force is highlighted and objectives identified.	N/A
ARCCA	Intro: We recommend expanding the second to last sentence of the first paragraph to include slower onset changes like rising temperatures, which we are already experiencing in California, noting that these are important contributors to the conditions associated with extreme events (e.g. higher temperatures and wildfire risk).	We agree; this change was made.	Chapter Introduction
ARCCA	Intro: Consider replacing "all phases of emergency management" with "emergency preparedness, response, and recovery."	We agree; this change was made.	Chapter Introduction
ARCCA	Intro - In the "Preparing for the Worst as Extreme Weather Tests Dams" section, we suggest changing "largely irrelevant" to "no longer reliable indicators of future climate."	We agree and added language to clarify the verbiage.	Chapter Introduction

Source	*Comment Summary*	*Response*	*Edit Location*
ARCCA	EM-1: Consider removing the word "exacerbate" in the recommendation as it is a directional assumption of climate change impacts. It is important to note that both impacts and conditions contribute to disasters to identify preventative actions.	We did not make this change because the science we use shows that climate change does exacerbate disasters.	N/A
ARCCA	EM-1: Change the first paragraph to: "Research, data and modeling provide CalOES and partner agencies with the information necessary to more effectively manage risk and support sustainable insurance and disaster programs."	We agree; this change was made.	EM-1
ARCCA	EM-2: ARCCA recommends changing EM-2.2 to develop and expand mechanisms since not all methods of increasing climate awareness and investment need to be novel. Leveraging existing mechanisms and pathways may be more effective and may be a more efficient use of limited resources to implement climate integration into planning and emergency management.	We agree; this change was made.	EM-2
ARCCA	EM-3: Include "regional partners" in list of key actors. a) discuss the barriers and solutions for properly integrating climate considerations into planning. b) include extreme heat as a key climate change impact.	We agree; this change was made.	EM-3
Sierra Business Council	This comment supports sections and recommendations that address holistic approaches to community preparedness in the Emergency Management section and in F-6.	Thank you for this comment.	N/A
ARCCA	Emergency Management planning should include integration with regional bodies and organizations since the footprint of emergency situations and response needs will often be at the regional scale, impacting multiple cities and counties with fire, flood, smoke, drought, and other climate change impacts.	We agree; this change was made.	EM-3
LCJA, CRPE, CAA, CVAQC	According to CalEnviroScreen 3.0, the San Joaquin Valley and Eastern Coachella Valley are home to the top 25% most overburdened and vulnerable census tracts in the state. Hazardous facilities are more likely to be in low-income communities of color. In extreme weather events, the proximity of ill-equipped communities and potential hazards can result in gas leakages and groundwater threats.	We agree; these gaps would be addressed in all EM Recommendations.	N/A
Nature Conservancy	Emergency preparedness: it will be critical for the energy sector to have a plan for emergency response. Impacts of climate change on energy facilities are critical to consider in this cross-sector analysis.	We agree; we have worked with our energy partners to map out these scenarios and develop relevant plans.	N/A

Source	Comment Summary	Response	Edit Location
Nature Conservancy	California is already seeing the effects of climate change and the amplification it causes on the hazards we face. It is essential that the state account for climate change in planning for future disasters. TNC encourages more emphasis be given to prevention of and preparation for these events in the final SCP, rather than focusing on how to respond once an event takes place. One key strategy is to expand the role for nature in this section. Nature can play an essential role in risk reduction and prevention, and as mentioned in our general comment letter of June 23rd, we recommend that the final Plan prioritize natural infrastructure over engineered actions, where feasible, for the Emergency Management section.	We agree and we would emphasize our Hazard Mitigation Grant Program supports the implementation of this type of green infrastructure, which will alleviate or eliminate future disaster threats.	N/A
Nature Conservancy	Improve mapping to include future conditions and natural infrastructure: Currently maps, such as those used for flood management, do not consistently include information on the most vulnerable areas to sea level rise, erosion and increased storm surge potential nor on important natural features that provide disaster risk reduction benefits. Ensuring this information is consistently available will help communities to effectively incorporate natural infrastructure in planning and help align federal funding sources to these efforts.	We agree; we are incorporating these types of maps into our State Hazard Mitigation Plan.	N/A
Nature Conservancy	Begin with the state: map state facilities at risk from climate-amplified extreme weather events including wildfire, flood and sea level rise and coastal hazards. Tools like CalAdapt exist for the state to augment the final Plan by identifying all state facilities as well as critical community resources like hospitals, water and waste water treatment plants and schools at-risk. This action will facilitate integration of climate change into the State's emergency planning and management and should also apply cross sector.	We agree; we are mapping this data in collaboration with California's Fourth Assessment.	N/A
Nature Conservancy	Prioritize conservation and restoration land protection so investments in open space and conservation also contribute to reduce risk and vulnerability. Funding criteria used by agencies with land protection programs should include criteria that prioritize natural areas that also provide disaster risk reduction benefits. Restoring natural conditions is an effective strategy with multiple benefits that should be given priority wherever feasible. For example, TNC is involved in, the Hamilton City Flood Damage Reduction and Ecosystem Restoration Project along the Sacramento River, where a century-old levee is being set back and natural conditions are being restored to reduce flood risk to the community. (See:https://www.nature.org/ourinitiatives/regions/northamerica/unitedstates/california/ca-green-vs-gray-report-2.pdf).	We agree, although Cal OES does not fund land conservation or restoration efforts unless it mitigates against future disaster events, in which case Hazard Mitigation Grant Program funding could be applied for.	N/A

Energy Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
ARCCA	We recommend greater coordination between the Energy and Transportation chapters in regard to ensuring the resilience of vehicle fueling infrastructure, which should take into account the increasing proportion of electric vehicles (including electric transit and school buses), natural gas vehicles, and hydrogen vehicles. Solar-powered vehicle charging stations combined with microgrids and battery storage can help boost transportation resiliency while helping to power critical infrastructure.	An Ongoing Action was added to E-3 to state that the Energy Commission will continue to support the deployment of low carbon vehicle fueling infrastructure.	E-3 Ongoing Actions
ARCCA	P-7: We recommend acknowledging the important role that public health departments play in encouraging utility providers to provide incentives for homeowners and businesses to install weatherization and energy efficiency measures. Many CA utilities are already providing free shade trees and rebates on cool roofing products, but these programs need to be expanded – particularly for lower-income communities.	We agree; this is addressed in E-6.2a and in the Public Health chapter in P-7.13.	N/A
City and County of SF	Recommendation P-7 (p. 55): We support the recommendation to continue research on the urban heat island effect, specifically research on low-carbon or net-zero emissions strategies for keeping people cool in extreme heat events, as well as research on the health and climate change adaptation and mitigation co-benefits of energy efficiency policies and green building standards. We also believe that our work in San Francisco may be helpful. With rooftops comprising 30% of San Francisco's land area, the City recognizes that rooftops are valuable space and recently passed legislation mandating the installation of solar or living (green) roofs on most newly constructed buildings across the city. These requirements facilitate the development of renewable energy facilities and/or living roofs, which can also lessen the effects of urban heat island in San Francisco. We suggest the State and other local agencies consider adopting similar ordinances.	Noted. Some of these suggestions are outside of the direct scope of the Energy chapter, but recommendation E-1.3d was added to discuss supporting cross-sector research on topics such as the urban heat island. Living roofs are mentioned in the Public Health chapter in the introduction to P-7.	E-1.3d

Source	Comment Summary	Response	Edit Location
San Diego Tribal Workshop	There is a need to bring up tribes in Energy and Public Health chapters; these are important issues for many tribes in Southern California. For example, the Campo Kumeyaay Wind farm annually produces power sufficient for about 30,000 homes. Vector control and fire management are very important public health issues for tribes. Public health may be perceived as a more important issue to tribes than talking about climate change.	This comment was noted, and coordinating with Tribes on renewable energy and energy efficiency is discussed in E-6.3 Revisions were also made to the Public Health and Emergency Management chapters to better include tribes. Additionally, an energy-related call-out box for Blue Lake Rancheria's energy and climate initiatives was added to the Public Health chapters.	E-6.3; Public Health chapter
California Association of Sanitation Agencies (CASA)	We estimate that the wastewater sector has existing excess capacity to co-digest up to 75% of the food waste and fats, oils, and grease (FOG) currently being landfilled. Many POTWs already have anaerobic digestion infrastructure in place, and they are increasingly providing the option to receive hauled-in organic waste (such as FOG and food waste) and anaerobically digesting it. In order to maximize the benefits associated with these activities, CASA is engaged in the rulemaking under SB 1383 and is working with CalRecycle and CARB to develop the necessary incentives, address long-term risks to public agencies, and reduce cost and regulatory (including permitting) barriers to get the necessary equipment for pre-processing hauled-in waste streams to a digestible form, infrastructure for anaerobic digestion, and equipment necessary for processing biogas into a pipeline grade or transportation fuel in place. In addition, we would like to work with CNRA, CARB, and the California Public Utilities Commission (CPUC) in examining interconnection issues, as well as research, development and demonstration of bioenergy and cogeneration technologies. There was no mention of bioenergy sources (specifically, biogas and sewage sludge) from POTWs. Increasing the production and use of biogas (bioenergy) at POTWs provides numerous co-benefits, including: (1) reduced GHG emissions through the increased capture and utilization of biogas; (2) increased production of renewable energy displacing fossil fuel use, which helps meet the renewable portfolio standard (RPS) goals under AB 32 and SB 32; (3)	Thank you for your comment. Some of the bioenergy issues brought up in this comment relate more to climate mitigation and GHG reductions than making energy more resilient to the impacts of climate change.	N/A

Source	Comment Summary	Response	Edit Location
	avoided landfill methane emissions from decomposition of high-strength waste (e.g., food waste) by diverting that waste to existing anaerobic digesters at POTWs having excess capacity; and (4) production of low carbon intensity fuels designed to meet the low carbon fuel standard (LCFS) under AB 32 and SB 32. In addition, increased energy generation and cogeneration (i.e., combined heat and power - CHP) capacity at POTWs may provide the most reliable (i.e., sustainable) source of distributed generation currently available, with the added benefit that POTWs will always need to be located relatively close to the customers they serve (be a local source of energy).		
Agricultural Council of California	Missing from the Draft Report is an appropriate recognition of the potential for effective utilization of agricultural biomass materials. Environmental benefits of energy created from biomass include reducing carbon emissions, diverting waste from landfills and reducing the demand for fossil fuels. As currently structured, the biomass industry's electric generation facilities provide an important outlet for over one million tons of biomass material from agricultural operations. However, the need for an outlet of agricultural materials is greater than the available facilities. Agricultural materials can and do combine with materials from urban and forest biomass to optimize the efficacy of the facilities. The state should make efforts to retain the existing available facilities as well as create opportunities for additional types of outlets for the materials.	This comment is primarily related to mitigating greenhouse gases, instead of adapting to climate change. However, to address the latter part of the comment, bioenergy and from forests are discussed in the Forest chapter.	N/A
Union of Concerned Scientists	Recommendation E-3: The final Plan should update the discussion of AB 2800 on page 9 to better reflect the scope of work for the Climate-Safe Infrastructure Working Group as outlined in the law, which extends beyond engineering codes and standards. The working group will at a minimum investigate: "*current informational and institutional barriers to integrating projected climate change impacts into state infrastructure design; the identification of gaps in the critical information that engineers responsible for infrastructure design*	For brevity, AB 2800 and its overall goal were mentioned in the Introduction to the plan and in the Energy chapter, but this text was not added.	N/A

Source	Comment Summary	Response	Edit Location
	and construction need to address climate change impacts; (and) how to select an appropriate engineering design for a range of future climate scenarios as related to infrastructure planning and investment" and provide recommendations on: "*integrating scientific knowledge of projected climate change impacts into state infrastructure design; addressing critical information gaps identified by the working group; (and) a platform or process to facilitate communication between climate scientists and infrastructure engineers.*"		
LCJA, CRPE, CAA, CVAQC	The draft should include a mechanism that ensures that all energy projects administered by the Energy and Public Utilities Commission do not result in adverse localized impacts to low-income communities.	That mechanism is in place through CEQA. The CEC uses a CEQA equivalent process for the siting of thermal power plants 50 MW and larger.	N/A
APEN, CPEHN, Human Impact Partners, Greenlining	Public health and energy: The recommendations and resulting activities are very siloed but there are cross-sector connections. Local energy and utility departments should be encouraged to coordinate with public health departments to address short and long term issues pertaining to climate change and health. For example, how can we help communities prepare for energy outages and surges? How do we advocate for clean energy technologies to protect the most vulnerable (people in emergency shelters, community centers, etc.) in the case of an outage or power surge? How are we prepared for disasters to ensure that diverse communities can be reached in language appropriate ways when power lines go down? What other places should be prioritized in the case of power outages such as homeless/emergency shelters, churches? Where are accessible places for these communities in emergencies?	E-6.2b was added to address this comment: "Work with public health agencies to coordinate energy resilience and public health efforts."	E-6.2b
LCJA, CRPE, CAA, CVAQC	The state must direct investment to low-income, disadvantaged communities for electric vehicle infrastructure as both a climate change adaptation and mitigation strategy. Expanding charging stations to smaller, rural communities is an opportunity to encourage more widespread purchasing of zero-emission vehicles.	Noted. Although it does not explicitly call out electric vehicle infrastructure, E-6 covers this at a higher level.	N/A

Source	Comment Summary	Response	Edit Location
Joint environmental NGO letter	Hotter and drier conditions may result in increased water demand being met from groundwater supplies, which requires electricity to pump. It may also result in less available hydropower, with the expectation that power plants will fill the energy gap at a time when higher temperatures could reduce their efficiency. The Plan briefly mentions this nexus in the Energy chapter, by highlighting the need for more research in this area, and in the Water chapter, by mentioning the Water-Energy grant programs. A more coordinated discussion of how the sectors and respective departments are, and plan to enhance working together and the anticipated benefits of closer collaboration would be helpful.	Outside of Safeguarding California, there is an overall water-energy working group of the Climate Action Team that meets regularly to discuss coordination of water and energy issues. Recommendation CA-1: Consider climate change in all core functions of government, covers in general way this request.	N/A
Sierra Business Council	The Energy section should explicitly identify biomass utilization as it addresses climate needs and provides co-benefits of renewable energy and rural job creation.	E-3.5 suggests coordinating cross-sector planning in areas such as biomass utilization. Job creation and biomass utilization are addressed in the Forests chapter since this is outside of the direct purview of the Energy chapter.	N/A
Union of Concerned Scientists	Recommendation E-3: It would be helpful to clarify how SB 350 implementation takes climate impacts into account.	State agency staff is exploring options for incorporating climate impacts in energy equity indicators for SB 350 implementation.	N/A
City and County of SF	Recommendation E-5 (p.32): To date, Cal-Adapt has been sporadically funded through research grants for system upgrades and incorporation of new data. Cal-Adapt has been underutilized because of a lack of human support and services available to decision makers needing translation and assistance in utilizing the data. We believe that the State also consider develop and fund a climate services component of Cal-Adapt featuring permanent staff providing ongoing technical assistance to local entities in translating and utilizing the data provided in Cal-Adapt, other sources of projections, and approaches useful at a local scale.	The State agrees with this comment and has been investigating means to accomplish this. This was already identified on page 5 of the draft plan.	N/A

Source	Comment Summary	Response	Edit Location
LCJA, CRPE, CAA, CVAQC	The California Energy Commission's Low Income Barriers Study identifies many of the barriers that currently exist for renters and low-income households in disadvantaged communities to access energy efficiency and weatherization programs. It is critical that adaptation strategies actively work to remove these barriers, first by making information more accessible to residents and sensitive of community needs and by including more robust outreach and targeted demonstrations in disadvantaged communities.	Noted. These suggestions are consistent with work underway to implement the recommendations of the SB 350 Low-Income Barriers Study.	N/A
LCJA, CRPE, CAA, CVAQC	We also suggest stronger communication between the California Energy Commission and the California Department of Housing and Community Development to streamline the titling process for low-income residents seeking weatherization projects in manufactured homes. Many manufactured homeowners in the Eastern Coachella Valley, for example, do not qualify for these projects because they do not have the title to do so.	Noted. This coordination is addressed at a high level in E-6.2a.	N/A
APEN, CPEHN, Greenlining	Access to clean infrastructure: We should be identifying ways to ensure that vulnerable communities have access to cleaner, more affordable energy sources such as solar on low-income housing and for low-income communities, more fuel-efficient cars, and energy efficient household appliances. Electric car charging stations should be placed in more economically appropriate places and in a variety of communities, instead of just in private parking garages.	We agree; E-6 is meant to address increasing access to energy efficiency and renewable energy in vulnerable communities.	N/A
APEN, CPEHN, Greenlining	Encourage community owned solar: The state and local governments should be encouraging pilot projects to elevate projects such as in Richmond and Oakland Chinatown to the community-level (also note LADWP community solar pilot project as a model).	Community solar is addressed in E-6.4.	N/A
APEN, CPEHN, Human Impact Partners, Greenlining	Investment without displacement: Our policies must ensure that clean energy investments are not creating displacement by increasing housing and other cost of living. Housing and cost of living experiences should be more central to the report because it affects numerous aspects of energy policies.	Although it is not stated, considerations of displacement are implicit in E-6.1	N/A

Source	Comment Summary	Response	Edit Location
APEN, CPEHN, Greenlining	Start with the youth: It is important that our policies ensure that youth are empowered to grow into a leadership capacity in their communities. The State should invest more in funding for this work including training, local hire policies, job transition, and renewable job training programs.	An example in the Climate Justice chapter, "Education and Employment," discusses new job opportunities that will help transform the energy sector to renewable energy generation, distribution, and storage for groups such as youth.	Goal 4 in Climate Justice chapter
APEN, CPEHN, Greenlining	Outreach and engagement: The state needs to invest in outreach and education about conservation in a culturally and linguistically appropriate way, ensuring that there is reach to populations most impacted by increases in energy prices, such as the elderly, disabled, and low-income families. The state should partner with community organizations to help with outreach, potentially targeting local youth to build energy literacy. Utility companies should address long term planning and infrastructure especially for vulnerable communities. For example, PG&E has a Better Together: Resilient Communities grant focused on wildfire risk, which could be an example.	Thank you, these suggestions are consistent with work underway to implement the recommendations of the SB 350 Low-Income Barriers Study.	N/A
APEN, CPEHN, Greenlining	West Oakland as a case study: While the Port is an economic engine it is also responsible for a great deal of pollution, much of which comes from the diesel trucks. Local land use planning puts schools and affordable housing near the Port, freeways, and other areas with high pollution yet there is not planning or incentives to move towards zero emissions or improved energy efficiency. For example, there were no electric charging stations proposed for trucks near the Port even though the state funded the city for infrastructure. In addition, new warehouses built near the Port do not have solar panels. Future projects should have incentives built into them to require alternative/clean energy towards the goal of reducing emissions.	These recommendations are primarily for reducing GHG and air quality emissions rather than for safeguarding California from climate change.	N/A
Sid Abma	Natural gas is an energy source that can be consumed to near 100% efficiency. The residential market proves that with their condensing boilers and water heaters. The technology of Condensing Flue Gas Heat Recovery has been used by some industries to increase their efficiency. It needs to be encouraged more by the utilities and the state.	This is an energy policy recommendation that is not related to safeguarding California from climate change impacts.	N/A

Source	Comment Summary	Response	Edit Location
SoCalGas	We strongly support the report's Recommendation E-1, to continue to support climate research for the energy sector, including adaptation of the natural gas system. Understanding the resiliency of the state's natural gas systems is particularly important because of its interconnection with electric generation. Natural gas is used not just for base-load central power plants, but also for flexible peaking technologies that balance the intermittency of renewables, helping integrate them into the grid, and grow the state's renewable generation portfolio over the long term. Further study of the energy systems will allow California to understand the strengths and vulnerabilities of the natural gas system, and how it can be relied upon during a climate change-induced event to provide an alternate energy source.	The State appreciates the support for this recommendation.	N/A
SoCalGas	SoCalGas also supports recommendations E-3, on incorporating climate change into utility planning efforts, and EM-1, to continue to review recent disasters to understand how they were exacerbated by climate change. A report by the U.S. Department of Energy studying the impacts of hurricanes on energy infrastructure noted that Hurricanes Irene and Sandy did not have a major impact on the natural gas system in the Northeast during Hurricanes Irene or Sandy. These events demonstrated that the natural gas system, because it is underground, is inherently resilient to climate impacts and can provide an alternative energy source when other systems fail. Buildings and residents that were connected to the gas grid were able to retain power as the underground gas system was largely unaffected.	The State appreciates the support for this recommendation. It should be noted, however, that previous state assessments have reported that parts of the natural gas system are vulnerable to the impacts of climate change.	N/A
ARCCA	ARCCA recommends integrating strategies that reduce fossil fuel dependency throughout this chapter including: 1. Expanding transit rather than roads; including a clear path to combat single occupancy vehicles; 2. Highlighting opportunities to beneficially deploy vehicle to grid systems; and 3. Other strategies to reduce fossil fuel demand and consumption.	These strategies are for reducing GHG emissions and are addressed in the AB 32 Scoping Plan.	N/A

Source	Comment Summary	Response	Edit Location
ARCCA	The definition and scope of the Energy Sector seems to be limited to investor-owned utilities. ARCCA recommends expanding the scope of recommendations to include organizations that have an energy-related mandate, including Community Choice Aggregations, public/private energy generations developers, municipal or publicly owned utilities, and local governments, as well as JPAs and special districts with microgrids and local utility-scale energy generation.	The Energy chapter either speaks generally about utilities or mentions both investor-owned and publicly-owned utilities together. This should not be interpreted as excluding these other actors.	N/A
ARCCA	E-1: For E-1.4a, ARCCA recommends focusing on strategies and mechanisms to reduce fossil fuel consumption and emissions and shift the CA economy to a low-carbon future.	These strategies are for reducing GHG emissions and are addressed in the AB 32 Scoping Plan.	N/A
ARCCA	E-1: Consider highlighting the Energy Commission's grant program – the EPIC Challenge: Accelerating the Deployment of Advanced Energy Communities – as a catalyst for pilot projects and innovation in the energy sector.	A bullet on the EPIC solicitation for Accelerating the Deployment of Advanced Energy Communities program was added to the ongoing actions under E-1.	E-1 Ongoing Action
ARCCA	E-3: We recommend elaborating on who would be impacted by updates to engineering codes and standards, as well as who would be responsible for implementing and enforcing those codes and standards.	These details may be included in a future report, but are a higher level of specificity than the current Safeguarding California report.	N/A
ARCCA	E-4: Consider expanding the second ongoing action - to support local implementation of energy resilience measures - to ensure that these programs are available to all Californians, not just Investor-Owned Utility ratepayers. These programs also need to be scalable so that they are useful at all income levels.	There is nothing here to imply that these programs will be limited to IOU ratepayers. E-6 covers the final point in this comment.	N/A
ARCCA	E-6: There are many Local Government Partnerships (LGPs) that provide low-income and disadvantaged community energy efficiency and demand response services. Coordinating with these programs will help meet the objectives of this recommendation.	These suggestions are consistent with work underway to implement the recommendations of the SB 350 Low-Income Barriers Study.	N/A
ARCCA	While we appreciate the emphasis on biomass utilization in the Forests chapter, we request that it be explicitly identified in the Energy chapter as it addresses not only a critical climate need but provides the co-benefits of renewable energy and rural job creation.	Noted. E-3.5 suggests coordinating cross-sector planning in areas such as biomass utilization. Job creation and biomass utilization are addressed only in the Forests chapter since this is outside of the direct purview of the Energy chapter.	N/A

Source	Comment Summary	Response	Edit Location
Union of Concerned Scientists	Recommendation E-3: The existing language could be replaced with similar language as that describing AB 2800 on page 9, or listing out these tasks and highlighting that CEC will help support the effort. Alternatively, this section could borrow language from Next Steps T-3.3 and its sub-steps.	We think the description of AB2800 in E-3 and the introduction of the plan is sufficient and does not need to be repeated here.	N/A
Union of Concerned Scientists	Recommendation E-3: The Plan Update should expand upon what is meant by the RPS being "informed by the consideration of ongoing and inevitable climate impacts" in the Ongoing Actions section.	For brevity, this ongoing action was left as is.	N/A
Union of Concerned Scientists	E-1: Include a next step to support research on the integration of renewables onto the electric grid. Examine the feasibility of integrating renewable energy generation such as solar, wind or in-line hydro by utilizing potential energy storage options to support electric grid reliability.	An ongoing action was added to E-1 to support integration of renewables onto the grid.	E-1 Ongoing Action
ARCCA	Intro: Consider acknowledging the inherent connection between energy and transportation by including a discussion around better planning to reduce vehicle miles traveled, expanding access to and use of transit, and encouraging alternative modes of transportation.	These are strategies for reducing GHG emissions that are covered in the AB 32 Scoping Plan since Safeguarding California focuses on climate change adaptation.	N/A
ARCCA	Intro: Consider expanding the introduction to consider how renewable energy can be affected by climate change given the variable conditions that are described.	We are studying this issue to inform future actions.	E-1 Ongoing Action
ARCCA	Intro: In the "Reaching All Californians with Energy Programs" section, we strongly recommend revising the first paragraph to more accurately portray split incentives. Renters should not bear the responsibility of installing solar panels or to repair broken doors, roofs, or furnaces. Landlords should be incentivized and encouraged to install such measures and tenants should be educated and encouraged to reduce energy consumption.	This example was removed for the final version of the plan.	N/A
ARCCA	E-1: In addition to heat waves, consider including additional primary climate change impacts such as erosion or land-wasting (of land areas with energy infrastructure due to storm events or flooding), flooding, subsidence (due to drought and/or groundwater overdrafts), and wildland fires.	Since Safeguarding California is not meant to serve as a vulnerability assessment, adding a list of climate change impacts in the introduction of this Recommendation would not improve the Next Steps or Ongoing Actions.	N/A

Source	Comment Summary	Response	Edit Location
ARCCA	Consider adding the electricity system overall and renewable energy as E-1.4d.	This comment is addressed in other parts of the Energy chapter.	N/A
ARCCA	E-2: ARCCA recommends expanding this recommendation to include sharing of climate change scenarios and impact data with local governments. Climate change scenarios should be shared with local governments in practical, accessible, and actionable way so that information can be easily applied to local planning and governance including land use, energy and climate action planning, emergency preparedness, economic development, housing, water resources management, and local government operations.	This is already addressed as an Ongoing Action under E-4, in the first bullet. Outside of Safeguarding California, the state and the Cal-Adapt team are continually seeking input from users about their information needs.	N/A
ARCCA	E-3: It is unclear whether "infrastructure" is limited to transmission and distribution systems or if it includes generation facilities, rooftop solar, and other types of distributed generation technologies and systems. We suggest considering the latter definition and scope, and including collaboration with a broad set of energy infrastructure interests throughout this section.	The term "infrastructure" here is intentionally vague to include any component of the energy system. It is not necessary to enumerate those individual components.	N/A
ARCCA	E-3: Recommendation E-2 refers to the 2016 Integrated Energy Policy Report while this recommendation refers to the 2017 update. We recommend utilizing the 2017 update and ensuring consistency throughout these recommendations.	The E-2 background references a decision made in the 2016 IEPR, while E-3.1 talks about next steps to be taken in the 2017 IEPR. There is no inconsistency here.	N/A
ARCCA	E-4 - ARCCA strongly suggests modifying E-4.3 to replace "the statewide network of local government commission led regional climate adaptation collaboratives" with "the statewide Alliance of Regional Collaboratives for Climate Adaptation (ARCCA) and its member regional climate collaboratives." ARCCA's member collaboratives are organized and led by local partners, and many focus on both mitigation and adaptation.	We replaced "the statewide network of local government commission led regional climate adaptation collaboratives" with "the statewide Alliance of Regional Collaboratives for Climate Adaptation (ARCCA) and its member regional climate collaboratives."	E-4.3
ARCCA	Please consider recognizing the importance of working with and empowering local governments in their vital role of defining and authorizing land uses, as well as their role in providing and maintaining critical services and infrastructures.	We agree; please see recommendation E-4, which discusses local adaptation efforts.	N/A

Source	Comment Summary	Response	Edit Location
ARCCA	E-6 - Plans for ongoing development and expansion in the Disadvantaged Communities project areas are critical to avoid one-time drop-in projects that do not solve communities' needs.	Noted; please see recommendation E-6 for strategies for increasing climate resiliency in disadvantaged communities.	N/A
The Nature Conservancy	The Energy sector should also prioritize natural infrastructure solutions, where feasible, as directed by EO B 30-15 and AB 1482 (Gordon).	The draft plan acknowledged this priority in the introduction to Recommendation E-3 and specifically in CA-5.	N/A
The Nature Conservancy	Protect species and habitat when developing Natural Community Conservation Plans and other mitigation measures for power plants.	This is already required by CEQA and state law so does not need to be explicitly added to the plan.	N/A
The Nature Conservancy	The roles of trees, especially in urban forests, should be highlighted and cross-sector collaboration with the forestry and other sector should be explored (see below). Trees remove pollutants from the air and keep our cities cooler, and play an important role in lowering demand for energy consumption and improving the quality of our neighborhoods.	Noted. Cross-sector collaboration for urban heat island effects with public health are discussed in E-1.3d.	E-1.3
The Nature Conservancy	The Desert Renewable Energy Conservation Plan is a valuable tool to help facilitate the construction of renewable energy facilities in the least conflict zones and is a good model of effective cross-sector planning to enhance resiliency of several priority	The DRECP is aimed at reliability and capacity of the energy system and meeting RPS targets, but does not directly enhance resiliency.	N/A
The Nature Conservancy	Additional cross-sector impacts and opportunities for the Energy Sector should be identified and adopted, where feasible.	E-3 is meant to address cross-sector impacts and adaptation at a high level by incorporating implications of climate change into all energy-related planning and decision making.	E-3
The Nature Conservancy	Emergency preparedness: it will be critical for the energy sector to have a plan for emergency response. Impacts of climate change on energy facilities are critical to consider in this cross-sector analysis.	OES is working on emergency preparedness, as addressed in the Emergency Management chapter; they consider energy issues and climate change. See EM-3.1f for information on our coordinating efforts.	N/A
The Nature Conservancy	Water: Water conservation, increased risk to hydropower, and the role of hydropower facilities in water storage and runoff should be addressed by both the water and energy sectors in a coordinated effort.	The water-energy nexus is addressed at a high level in E-1.3c. Additionally, the first bullet in E-4's Ongoing Actions and E-6.3 discuss coordination between water and energy.	N/A
The Nature Conservancy	Forestry: increased frequency and severity of high intensity wildfire poses a great risk to the energy sector. Actions like	E-3.5 was edited to address cross-sector topics such as wildfire risk and biomass utilization.	E-3.5

Source	Comment Summary	Response	Edit Location
	forest thinning and biomass harvest can affect the reliability and transmission of power and demonstrating the need for coordinated planning between the forestry and energy sectors.		
The Nature Conservancy	Biodiversity: Protecting habitat, migration corridors and sensitive species is essential when citing new power facilities and undertaking mitigation measures. All decisions for citing of new energy facilities should include an analysis of climate change impacts over time. Salmon and other fish should be considered during new hydropower facilities planning.	This already occurs for sensitive species through the CEQA process. Analysis of climate change impacts over time for citing energy facilities is addressed in E-3.1.	N/A
The Nature Conservancy	Public Health: identifying and aiding vulnerable communities who are disproportionately affected by high heat days and ensuring energy security are important for both public health and energy sectors.	Thank you for this comment, this is meant to be addressed at a high level through E-6.	N/A
SF Public workshop	Utilities are changing their roles in society as we are decarbonizing. What do we do with natural gas too? We have to change all the hardware, and what do we do with the old infrastructure?	This is addressed in E-3.	N/A
SF Public workshop	At the local level: energy/transport sector are very interdependent. How do all the agencies talk to each other for planning?	At the local level, this is often coordinated by ARCCA members. ARCCA is discussed in E-4.3.	E-4.3
Auburn Public Workshop	Connect biomass energy topics in the forests chapter to the energy chapter.	This is now addressed in E-3.5	E-3.5

Land Use and Community Development Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
LCJA, CRPE, CAA, CVAQC	The Draft must incorporate stronger ties to SB 375 and Sustainable Communities Strategies, which are key plans addressing regional transportation and land-use inequities and changes needed to reduce greenhouse gases. While the Climate Justice Appendix recommends a strategy to support local and regional adaptation planning in RTPs/SCSs and General Plans, it does not identify planning policies local and regional plans should be prioritizing, such as infill development and multi-unit affordable housing. SB 375's aim is to create sustainable, resilient communities where residents need not drive long distances to access basic services.	Developing sustainable communities with access to public amenities is mentioned in the introduction to the Land Use chapter on the last paragraph on 1st page of chapter. The introductory paragraph to L-6 was revised to include these priorities: "The State is committed to reducing vulnerability and addressing climate risk through its investments in housing and community development. Across state agencies, efforts should continue to integrate climate adaptation with financial support for other priorities such as infill and compact development, affordable housing, and land conservation."	Introduction to L-6
LCJA, CRPE, CAA, CVAQC	The state must also direct more transportation investments to transit operations and active transportation infrastructure in disadvantaged communities. In rural areas where traditional modes of public transit may not be efficient, other innovative models must be considered, such as vanpool and carshare programs.	Although it does not address specific adaptation options for different types of disadvantaged communities such as rural areas, Recommendation T-5.3 directs the State to work with disadvantaged populations to identify adaptation strategies that are best suited for their community's needs: "Engage public organizations and individuals to discuss the expected impacts of climate change on the transportation system, and to identify adaptation solutions that protect nearby communities, especially those with vulnerable and/or disadvantaged populations."	N/A
CADMUS	We recommend changing the Transit-Oriented Housing for Resilient Communities narrative to one that explicitly deals with climate adaptation. Although TOD does contribute to community resilience, the narrative is more about accessibility and inclusivity than adaptation or even mitigation.	This is addressed in part in L-3.5a.: "Seek approaches to incorporate climate adaptation into regional transportation plans and Sustainable Communities Strategies."	N/A
CADMUS	Recommendation L-3: We suggest that this recommendation be highlighted in the chapter introduction, as zoning ordinances and codes are one of the most powerful and legally binding tools available to local government.	The chapter introduction highlights the importance of developing state policy guidance to inform local government planning for climate change; it is meant to provide a high-level overview of the chapter.	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
CADMUS	Recommendation L-4: We suggest that this recommendation be amended to include climate adaptation business support for small and medium-sized enterprises as they employ a significant amount of the work force, and often have the fewest resources to plan for and adapt to climate change for long-term resilience; e.g. business continuity planning.	L-4.4 was edited to address this comment: "Promote workforce training and development programs **that help businesses become more resilient to climate change and disasters** and accelerate the creation of green jobs in fields such as brownfield cleanup and redevelopment, urban agriculture, installation and maintenance of green energy and technologies, energy efficiency weatherization and retrofitting, planting and maintenance of urban forestry and parks, habitat restoration, and sustainable timber harvesting and biomass utilization."	L-4.4
CADMUS	Recommendation L-6.1a: This recommendation highlights the role of social capital in building climate resilient communities. We recommend the importance of this be highlighted throughout the entire chapter.	Building social capital is a theme highlighted in the last paragraph of the introduction, showing its overarching importance for all subsequent recommendations in the chapter: "By helping to create these kinds of neighborhoods, public agencies can help foster relationships among neighbors that lead to better outcomes before, during, and after extreme events. With climate change already making sudden and prolonged shocks more severe and frequent, Californians will need to rely on each other more than ever." Inclusive public participation (L-1), direct technical assistance (L-2), sustainable economic development strategies (L-4), investment in vulnerable populations (L-5), and financial assistance to communities (L-6) are all strategies that build social capital to adapt to climate change.	N/A
Santa Ana Watershed Protection Authority	W-2 and L-3 are closely related. Emphasizing this connection and drawing attention to CA-6 could make for a stronger draft.	The cross-sector icons added to the final version of the document now emphasize the connection between these two recommendations.	Cross-sector icons
Thomas Phillips	In order to adapt to climate change in California, the California Climate Action Team (CAT, 2013) included the following recommended actions in their report, Preparing California for Extreme Heat: Guidance and Recommendations (emphasis added): a) Review and incorporate changes as appropriate, to state and local regulations, codes and industry practices for buildings, land use and design elements to identify opportunities	Recommendation P-6.5 notes the importance of implementing this report: "Continue implementation of recommendations in "Preparing California for Extreme Heat", a 2013 multi-agency state guidance document."	N/A

Source	Comment Summary	Response	Edit Location
	to accelerate the adoption of cooling strategies for both indoor and outdoor environments (p. 10, Recommendation 1); and b) Evaluate strategies that could provide protection against heat and air pollution to vulnerable populations that are not based on energy intensive air conditioning (Recommendation 4).		
ARCCA	L-4: This recommendation should address how it is critical to the local economy to ensure the resilience of existing economic activity, especially of local businesses. Small businesses are the backbone of local economies, making up to 90 percent of businesses in many regions. At the same time, only a small percentage of people will be able to transition into the clean energy workforce, and around 40 percent of small businesses fail after a natural disaster. Thus, it is imperative that we ensure that local economic activity - principally small businesses - is equipped to survive extreme events and long-term climate impacts. The State can help ensure more businesses are aware of their climate risks and guidance available by incorporating this information into existing resources and information from the Governor's Office of Business and Economic Development, the Department of General Services' Office of Small Business & Disabled Veteran Business Enterprise Services, and the Secretary of State Business Enterprise office. The key is to rely on existing communications channels to businesses. In addition, there should be assistance to regions whose jobs rely largely on winter tourism.	L-4.4 was edited to address this comment. Additionally, PC-2 in the new Parks, Recreation, and California Culture chapter addresses the last part of this comment on tourism.	L-4.4; PC-2 in Parks, Recreation, & CA Culture chapter
ARCCA	L-1: We also recommend accounting for the differing approaches needed to engage urban and rural low-income and disadvantaged communities.	The chapter emphasizes the necessity of community engagement, but recognizes that in practice these strategies will be tailored to best fit community needs.	N/A
ARCCA	L-6: We recommend developing actions and programs to ensure that affordable housing units and developments are not overlooked in the climate adaptation process. New affordable housing developments should not be sited in areas of greater	Integration of climate impacts into siting for housing is discussed in L-3.5d. "Consider changes to land use laws to integrate climate adaptation. Expand existing guidance and seek modifications to housing element and related law to integrate climate adaptation, including more clarity related	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
	climate vulnerability, such as floodplains. We recommend conducting a vulnerability assessment for existing affordable housing to identify risks and mitigation solutions.	to growth allocation methodologies (Regional Housing Need Allocation), sites planned for future growth and climate and hazard impact avoidance and mitigation strategies, and analysis and programs for vulnerable populations."	
ARCCA	We suggest addressing existing state policies and programs that are designed to reduce the conversion of farmland to urban use and propose improvements in implementation or the statutory authorities themselves that would make them more effective (i.e. the Williamson Act, Cortese-Knox-Hertzberg Act, California Environmental Quality Act, AB 857, SB 375, California Farmland Conservancy Program, Sustainable Agricultural Land Conservation Program).	Funding and improving programs such as the Sustainable Agricultural Lands Conservation Program, California Farmland Conservancy Program, and Williamson Act is detailed in A-4.1 and A-4.2. Land conservation is also discussed in the introduction to the Land Use chapter and under Recommendation L-6.	A-4.1, A-4.2
City and County of SF	Recommendation L-1 (p. 36): We suggest clarifying the language proposing to "engage residents to be equitable." Equity is also heavily noted in L-5.	For clarity, the language for L-1 was changed to "Develop innovative governance models and **equitable** public engagement strategies to engage residents, especially vulnerable and disadvantaged communities, to be sustainable and resilient~~, equitable, and adaptable."~~	L-1
City and County of SF	Recommendation L-3 (p.40): We suggest adding that all new development should incorporate climate adaptation measures and/or adaptive management strategies over time, which not only protect themselves, but contribute to the adaptation needs of adjacent existing areas. Also, we suggest rewording "development incentives" to "development agreements" to be more inclusive.	Ensuring that climate change impacts are considered for new development is addressed in L-3.3., "Analyze the locations of potential future growth in context to potential impacts of climate change for consideration as land use plans, policies and programs are proposed at the state, regional and local level;" and in L-5.10. "Assess and address the climate impact and hazard vulnerability of state funded or administered developments and facilities such as housing, shelters, migrant centers and mobile home parks that accommodate vulnerable populations including households with lower incomes or special needs (e.g., farmworkers, homeless, senior and persons with disabilities). Protect HCD and other state invested properties from climate change, including special needs populations, mobile home and manufactured homes, by taking actions that mitigate climate risk. HCD will continue seeking out and collecting	N/A

Source	Comment Summary	Response	Edit Location
		information that helps analyze geospatial information in the context of risks from climate change and hazard mitigation."	
Sierra Business Council	This comment supports recommendation L-4.4 to promote workforce training programs that accelerate the creation of habitat restoration, and sustainable timber harvesting and biomass utilization.	Noted, thank you for your comment.	N/A
LCJA, CRPE, CAA, CVAQC	State recommendations to promote infill development (Recommendation L-6, page 44), must recognize the very distinct needs of rural communities and encourage infill development of resident-identified services and needs. We are pleased to see recommendations focusing on equity and ensuring that vulnerable community members in rural areas are included in California's equity strategies. Additionally, as rural communities throughout California are projected to see the highest population growth in the coming years, it is important that we consider strategies to conserve agricultural land while still providing residents with needed services.	Recognizing that each community in California faces distinct needs for climate adaptation and resiliency, this document tries to set overarching guidelines for equity and engagement without prescribing one particular method.	N/A
APEN	Acknowledge impacts of land use on resilience: The report should acknowledge the impacts of land use policies and planning on a city and community's ability to be healthy and resilient including accessing affordable, quality housing, which is not mentioned in this sector.	The link between land use planning and resiliency is emphasized in the introduction to the chapter. The Public Health chapter (especially recommendations P-1 and P-3) also discusses the connection between safe and healthy neighborhoods, housing, and climate adaptation.	N/A
APEN	A positive aspect of this sector is the attention on economic development and anti-displacement strategies. The report should replicate this discussion in other sectors.	Thank you. The recommendations within the Land Use and Community Development chapter are intended to provide an overarching framework for working with local communities on climate adaptation across all state agencies that can be applied to other chapters as well. Additionally, anti-displacement strategies are discussed in P-3. Economic development is discussed in the Forestry chapter, Public Health chapter, Parks, Recreation, and California Culture chapter, and Ocean chapter.	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
ARCCA	We recommend highlighting the critical relationship between state programs and local government GHG reduction programs working complimentarily to mobilize action, address concerns about overlap, and to mitigate potential issues related to quantification of benefits in a way that avoids duplication.	A sentence was added in the introduction of the plan to address this comment.	CA Principle 6
ARCCA	L-5: We recommend providing safeguards and programs to help disadvantaged communities return to their homes and communities after evacuations and natural disasters if their homes are lost.	Within the Land Use chapter, two recommendations focus on the importance of building post-disaster resiliency in disadvantaged communities: Recommendation L-5.9, "Explore potential for prioritizing vulnerable populations in disaster recovery efforts;" and Recommendation L-4.1., "Actively identify and catalog opportunities to replicate or scale-up elements of the Community and Watershed Resilience Program being implemented to support post-Rim Fire recovery and resilience in Tuolumne County. (The Program is funded through a National Disaster Resilience Competition grant.)"	N/A
ARCCA	L-6: We recommend facilitating community solar, battery storage, and other programs to help affordable housing development to maintain reliable, clean power, while simultaneously creating a buffer for ongoing operations in times of climate shocks.	Community solar for low-income communities is discussed in E-6. Other programs to incentivize the deployment of energy efficiency and renewable energy in low-income communities are discussed in E-6, L-4.5, and P-1.3.	N/A
ARCCA	L-2: We strongly support L-2.6. We recommend that the state prioritize this action, for the following reasons: 1) extreme heat is already a serious health threat in the Central Valley, Sacramento, and the Inland Empire: 2) trees and other green infrastructure that help to mitigate the UHI effect take time to grow to maturity; and 3) pavements as well as roofing have a long lifespan. A statewide map of the projected UHI effect, both currently and in 2030, as well as the projected benefits of mitigation measures, would be very helpful, especially in conjunction with social vulnerability mapping. As an example, Louisville, Kentucky, has developed an effective program in this area that could be looked to for reference.	CalEPA created an Urban Heat Island Index and maps of UHI across California communities: https://calepa.ca.gov/wp-content/uploads/sites/34/2016/10/UrbanHeat-Report-Report.pdf. Addressing the Urban Heat Island effect is a priority across state agencies: recommendations to address UHI are provided in seven of the policy chapters (Public Health, Land Use and Community Development, Public Health, Transportation, Forests, Water, and Parks, Recreation, and California Culture).	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
ARCCA	L-1: We applaud the state's commitment to developing innovative engagement and emphasize the need for robust, authentic, and effective community engagement. In support of this, we suggest highlighting CivicSpark. We hope the State will also look at successful engagement activities from other communities around the U.S. to develop best practices for local and regional governments around the state, such as Detroit and Baltimore, which have effectively engaged their low-income and disadvantaged communities with strategies such as training community members to serve as climate ambassadors who then bring policies and plans back to the community; providing stipends for participation; providing food and childcare at public meetings held within the community; responding to community members' concerns; and more.	CivicSpark is discussed in L-4.6.: "Expand pathways to the CivicSpark Governor's AmeriCorps Initiative, California Conservation Corps, and associated workforce development programs that train and place Californians in professions that increase climate resilience." Although this document does not highlight specific best practices for engagement, it does set guidelines on the importance of incorporating engagement strategies through L-1.2. "Require state entities and grantees to incorporate a variety of appropriate community engagement strategies, including identifying and engaging the most vulnerable individuals in a planning or project area, in all relevant land use planning and community development grant applications," and L-1.6. "Explore funding and other resources to continue community based efforts to enhance participation of vulnerable populations and disadvantaged communities in land use decision making."	N/A
ARCCA	L-5: We recommend facilitating community cohesion rather than displacement, as occurred with low-income communities in New Orleans after Hurricane Katrina.	L-2.9 recommends developing and adopting anti-displacement strategies: "Analyze and assemble best practices that empower residents to stay and thrive in their communities while improving resilience to climate change." It follows with recommendation L-2.9a., "In appropriate programs, integrate anti-displacement language like that found in the Affordable Housing and Sustainable Communities Program so that vulnerable populations are not pushed out of climate-safe and supportive neighborhoods." Overall, the Land Use, Public Health, and Parks, Recreation, and California Culture chapters put an emphasis on strategies for enhancing community cohesion.	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
ARCCA	L-6: We recommend developing incentives and other policies to increase passive cooling and other energy efficiency measures to help affordable housing units save energy and remain cool in the summer while saving low-income residents money on their energy bills.	Recommendation E-6 within the Energy chapter aims to "Increase climate resiliency in low-income and disadvantaged communities." It discusses implementing the SB 350 Low-Income Barriers Study: *Overcoming Barriers to Energy Efficiency and Renewables for Low-Income Customers and Small Business Contracting Opportunities in Disadvantaged Communities* and related energy efficiency/ renewable energy programs as a part of adaptation efforts. It directly calls out energy retrofits to this end. Additionally, energy efficiency strategies for low-income residents are discussed in L-4.5., "Look for transferability of elements from the SB 350 Low-Income Barriers Study to realize potential synergies between emissions reduction and economic development initiatives, especially in low-income communities;" and in P-1.3., "Support and create direct ties to health equity in the implementation of Senate Bill 350 by participating on the Governor's Office-led multi-agency Task Force, which is working to implement recommendations to increase access for low-income and other vulnerable communities to energy efficiency, renewable energy and clean transportation and mobility options."	N/A

Public Health Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
San Diego Tribal Work-shop	There is a need to bring up tribes in Energy and Public Health chapters; these are important issues for many tribes in Southern California. For example, the Campo Kumeyaay Wind farm annually produces power sufficient for about 30,000 homes. Vector control and fire management are very important public health issues for tribes. Public health may be perceived as a more important issue to tribes than talking about climate change.	Thank you for this comment. CDPH is following up with the Campo Kumeyaay Nation to find out more about their climate change initiatives, and if there are health adaptation components of them. CDPH is also contacting other California tribes to include information on tribal climate change initiatives with health adaptation components. We agree that public health is an important frame for messaging action on climate change.	Climate justice call-out box
ARCCA	T-4.7: "Educate those who use active transportation (bicycle and pedestrian) about heat illness prevention and treatment. Along pedestrian facilities with high-heat days, provide shade sidewalks/paths, and public water fountains to prevent heat illness. Where possible, use pervious pavement for bicycle and pedestrian pathways to increase water infiltration." We recommend integrating this strategy with urban heat island mapping and analysis to understand where shading and water would be most crucial.	Thank you for this comment. CDPH will seek ways to integrate this idea (of directing shade, greening, and water access) into relevant state grant guidelines and policy guidance, and to support local and state agencies to implement this idea. The CDPH Health in All Policies Task Force staff have an Action Plan on Parks and Greening that this may fit into.	P-3.5
UCS	Recommendation T-5: "Support and develop multimodal transportation routes to provide a variety of travel options in the case that a route is damaged". This section should identify specific solutions to address equity issues for transportation systems and partner with vulnerable populations in transportation decisions. For instance, differences in transportation access between urban and rural areas, or across vulnerable groups (e.g., elderly, low-income, and disabled communities), could influence just how resilient a community is to climate change.	Thank you for this comment. CDPH is supporting state and local agencies to identify populations vulnerable to climate impacts utilizing the CDPH Climate Change and Health Profile Reports and Indicator Data (https://www.cdph.ca.gov/Programs/OHE/Pages/CalBRACE.aspx) as well as Health Disadvantage Index/Healthy Places Index (http://phasocal.org/ca-hdi/) in addition to CalEnviroScreen, in order to direct resources to these communities to improve their living conditions, including access to safe and healthy transportation options. CDPH is participating on the SB 350 Barriers Task Force at the request of ARB and CEC to develop and implement strategies to increase the access of low income and other vulnerable communities to renewable energy and clean transportation options.	P-1.5; P-3.5
City and County of SF	Recommendation T-1 (p. 61): We agree it is important to understand climate trends and the risk they pose for transportation infrastructure and assets. We believe in addition to transportation assets, it will be useful to determine how climate change may affect congestion management programs and emergency vehicle access on various routes.	Thank you for this comment. CDPH is participating on the SB 350 Barriers Task Force at the request of ARB and CEC to develop and implement strategies to increase the access of low income and other vulnerable communities to renewable energy and clean transportation options.	P-1.3

Source	Comment Summary	Response	Edit Location
CPEHN, Greenlining	Education and outreach: It is critical for public transportation systems to be coordinated so that when there are emergencies they can help with evacuation efforts. We should start these efforts now.	Thank you for this comment. CDPH is recommending to sister agencies and other stakeholders that this kind of planning take place. It is mentioned under P-5.	P-5
CPEHN, HIP, Green-lining	Address transportation equity issues: Several issues are not adequately addressed in the report such as accessibility for low-income, disabled, elderly and other communities, and differences in access between rural, urban or suburban areas. These issues should be further accessed and addressed in the report and how a community's climate resilience will be impacted.	Thank you for this comment. CDPH is supporting state and local agencies to identify populations vulnerable to climate impacts utilizing the CDPH Climate Change and Health Profile Reports and Indicator Data (https://www.cdph.ca.gov/Programs/OHE/Pages/CalBRACE.aspx) as well as Health Disadvantage Index/Healthy Places Index (http://phasocal.org/ca-hdi/) in addition to CalEnviroScreen, in order to direct resources to these communities to improve their living conditions, including access to safe and healthy transportation options. CDPH is participating on the SB 350 Barriers Task Force at the request of ARB and CEC to develop and implement strategies to increase the access of low income and other vulnerable communities to renewable energy and clean transportation options. Also, the CalOES Office of Access and Functional Needs plans to provide assistance to vulnerable populations in the event of emergencies.	P-5.3
LCJA, CRPE, CAA, CVAQC	The draft should include a mechanism that ensures that all energy projects administered by the Energy and Public Utilities Commission do not result in adverse localized impacts to low-income communities.	Thank you for this comment. CDPH is participating on the SB 350 Barriers Task Force at the request of ARB and CEC to develop and implement strategies to increase the access of low income and other vulnerable communities to renewable energy, and to provide review, input and indicators to assure that energy products and services benefit and do not adversely impact low-income communities.	P-1.6
LCJA, CRPE, CAA, CVAQC	The state must direct investment to low-income, disadvantaged communities for electric vehicle infrastructure as both a climate change adaptation and mitigation strategy. Expanding charging stations to smaller, rural communities is an opportunity to encourage more widespread purchasing of zero-emission vehicles.	Thank you for this comment. CDPH is participating on the SB 350 Barriers Task Force to provide health equity input such as this idea. (In response, put in link and language about ARB's plans for EV infrastructure in rural communities).	P-1.6

Source	Comment Summary	Response	Edit Location
North Coast Tribal Work-shop	We have found that a public health/ social systems approach to climate resilience has been the best approach for climate change initiatives for tribes. For example, we've built environmental initiatives into Native youth and economic resilience projects. A similar lens for Safeguarding could be beneficial.	Thank you for this comment. CDPH is seeking to learn more about how tribes are addressing the health impacts of climate change, and would love to learn more about the projects you mention.	N/A
Cal-Trans NAAC	Need to better address environmental issues that have historically impacted tribes such as illegal dumping and how those issues will be implicated by climate change impacts for. For example, what happens if a toxic waste site floods? How can we work on clean-up of those sites now to prevent that?	Thank you for your comment. CDPH recognizes that communities facing historical inequities, such as tribes, are more at risk of the health impacts of climate change, including exposure to toxins in extreme climate events. We are in conversations with other agencies regarding planning for safety around hazardous sites in light of climate change.	N/A
City and County of SF	Recommendation P-2 (p. 48): We support outreach and education efforts to strengthen local understanding of climate impacts on public health, energy systems, and transportation, and empowering residents to become involved in the decision-making process. We encourage the State to conduct public opinion surveys as a next step and to share this information with jurisdictions regarding the effectiveness of already-existing and newly proposed outreach and educational programming to strengthen future outreach efforts.	Thank you for this comment. CDPH regularly provides language for plans, policies and grant guidance regarding best practices for robust public engagement in climate decisions. Please see the public opinion survey results of the Public Policy Institute of CA regarding climate change.	P-2.1; P-2 ongoing actions
City and County of SF	Recommendation P-7 (p. 55): We support the recommendation to continue research on the urban heat island effect, specifically research on low-carbon or net-zero emissions strategies for keeping people cool in extreme heat events, as well as research on the health and climate change adaptation and mitigation co-benefits of energy efficiency policies and green building standards. We also believe that our work in San Francisco may be helpful. With rooftops comprising 30% of San Francisco's land area, the City recognizes that rooftops are valuable space and recently passed legislation mandating the installation of solar or living (green) roofs on most newly constructed buildings across the city. These requirements facilitate the development of renewable energy facilities and/or living roofs, which can also lessen the effects of urban heat island in San Francisco. We suggest the State and other local agencies consider adopting similar ordinances.	Thank you for this comment. That is a great example for the rest of the state of climate mitigation and adaptation strategies with benefits for health and well-being.	N/A

Source	Comment Summary	Response	Edit Location
City and County of SF	Recommendation P-3 (p.49): We strongly support the recommendation to provide mitigation for poor indoor air quality for new and existing buildings sited near major roadways. In 2014, San Francisco passed several amendments to the Building and Health Codes (Article 38) to establish an Air Pollutant and Exposure Zone (APEZ) and an enhanced ventilation requirement for all urban infill sensitive use developments within designated zones. APEZ areas exceed protective standards for cumulative PM 2.5 concentration and cumulative excess cancer risk. Projects within APEZ areas require special consideration for whether the project would expose sensitive receptors to substantial air pollutant concentrations or add emissions to areas already adversely affected by poor air quality. We suggest that the State encourage local planning and health departments to implement similar ordinances as part of a community health risk reduction plan to promote public health and welfare.	Thank you for this comment. CDPH will look at the ordinance to explore whether we can support similar concepts being incorporated in state guidance or policy.	P-3.7
CPEHN	Partner with community organizations to conduct research: While we applaud efforts to conduct more research, the public health sector should emphasize the importance of partners with community based organizations who are already conducting community based research.	Thank you for this comment. The CDPH Environmental Investigations Branch regularly partners with community groups and community members to engage in community based participatory research.	P-7 introduction; P-7.10
LCJA, CRPE, CAA, CVAQC	Any state strategy to build community resilience must include robust strategies aimed at protecting farmworker health, as farmworkers are most vulnerable to extreme heat. We suggest that the Draft focus on engaging rural communities and farmworker populations through direct outreach that includes language translation, childcare, and food to gather meaningful input on cooling center siting and identify other farmworker health concerns. The State should also partner with farmworkers to ensure that federal farm labor regulations are enforced.	Thank you for this comment. CDPH integrated it into the Public Health chapter.	P-2.10

PUBLIC HEALTH

Source	*Comment Summary*	*Response*	*Edit Location*
Gregory Nelson	California is doing nothing in the CAS to address the state's own overpopulation issues. Encouraging more sustainable population levels through messaging, education, access to quality healthcare and family planning, and protection of women's rights to economic equality, autonomy over their own bodies and other basic human rights will lead to lower birthrates, and subsequently lower emissions and climate impacts. I propose a new recommendation in the Public Health section, a P-10, which would promote and expand the aforementioned at the state, county, and municipal levels.	Thank you for the comment. CDPH supports family planning and access to women's health care.	N/A
CADMUS	In the second paragraph of the Introduction, the threats to public health are discussed but the impacts to physical infrastructure are not mentioned. If sea levels rise, what is the impact to healthcare facilities in coastal areas? Do any of the threats listed have an impact on physical access to care? Are buildings more susceptible to damage, at times long-term, due to extreme weather events or gradual climate change? If so, what is the public health impact to the loss of a medical facility in the short- and long-term in the community, especially rural communities with less redundancy? We recommend that these questions be considered and accounted for through adaptation actions in the updated plan.	Thank you for this comment; please see P-5.	P-5 ongoing actions
CPEHN	Better connect to ongoing community efforts to understand and identify how vulnerable communities are prioritizing and addressing these issues. Many organizations around the state are working closely on climate change and the negative impacts of environmental pollution. The public health sector should include better connections to this work and how we can advance these efforts simultaneously.	Thank you for this comment. CDPH agrees that CBOs and local jurisdictions are often innovators and ahead of the state.	P-2.1; P-2.2; P-2 ongoing actions

Source	Comment Summary	Response	Edit Location
CPEHN	Map multiple health factors impacting climate change: The public health sector should take the lead in identifying areas in which multiple public health threats could compound the impacts of climate change such as toxic soil, sea level rise, poor air quality and the presence of communities with greater health disparities.	Thank you for this comment. CDPH released County-level Climate Change and Health Profile Reports for each county, that show climate exposure projections through 2100, and describe the number or rate of populations with disproportional climate vulnerabilities or lack of adaptive capacity at the census tract, county or regional level. These indicators have been incorporated into the mapping platform of the Health Disadvantage Index (soon to be called Healthy Places Index), and can show the overlap of climate risks and vulnerabilities. The tool also has a layer for CalEnviroScreen, to map pollution burden.	P-1.5; P-1 ongoing actions
SoCal Gas	Responding to SoCalGas' Risk Assessment and Mitigation Phase filing, the California Public Utilities Commission (CPUC) noted, "When threat assessment focuses only on extreme weather events (severe storms, wind storms, etc.) it would appear that gas systems might be relatively more resilient because much of the infrastructure is underground." Given this existing resiliency, natural gas-fueled distributed generation technology, such as fuel cells and combined heat and power plants, can provide electric reliability for critical customers such as health care facilities during grid outages caused by climate-induced extreme weather. We suggest this consideration in ongoing efforts to improve public health preparedness and emergency response efforts mentioned in Recommendation P-5.	Thank you for this comment. CDPH is not in a position to assess the resiliency of one energy delivery system over another. The California Energy Commission may be in a better position to make recommendations about different energy platforms. Another person who may be in a position to comment is Mr. Don Boland at the California Utilities Emergency Association (CUEA).	N/A
ARCCA	P-1: The American Psychological Association in partnership with Climate for Health and ecoAmerica published the report "Mental Health and Our Changing Climate" (https://ecoamerica.org/wp-content/uploads/2017/03/ea_apa_mental_health_report_web.pdf) that highlights impacts, implications, and guidance. We recommend reviewing this resource and incorporating its findings into the statewide plan.	Thank you for mentioning this resource. CDPH has incorporated it into the chapter.	P-1.7

Source	Comment Summary	Response	Edit Location
ARCCA	P-1: Weatherization efforts should extend to middle-income property owners whose property may be rented to low-income families. We recommend providing no/low interest loans for energy efficiency improvements for middle-income property owners. While there are Property-Assessed Clean Energy (PACE) programs, they offer higher interest rates and participation varies across the state. We also recommend targeting multi-family units. Split incentives continue to remain a barrier: where there is no incentive for landlords to make energy efficiency improvements since tenants pay utility bills. We recommend providing more funding for retrofits and upgrades to older affordable multifamily units. Broader participation in energy efficiency programs is needed to reduce urban heat island effects.	Thank you for this comment. Some of the Community Services and Development weatherization programs are available to weatherize properties where the tenant is low-income and the landlord is not. We agree that expansion of these programs is a worthy goal.	N/A
ARCCA	P-1: We recommend matching funds for photovoltaic solar systems with funds for roof replacements, preferably cool roofs. Many low-income families require new roofs to support solar installations, but the current CSD program does not cover these costs.	CSD is aware of this problem and collaborating with Build It Green, an administrator of CDS LIWP funds for the Bay Area and Southern CA. Build It Green is raising funds to provide the services not provided by CSD weatherization funds, including new roofs, mold remediation, and lead abatement in a Healthy Homes model.	N/A
ARCCA	P-2.1: expand to work with local government planning and public health departments and community-based organizations (e.g. neighborhood associations) to build community capacity to participate in and influence decision-making processes.	Thank you for this comment. CDPH added it to P-2.1	P-2.1
ARCCA	P-2.3: we recommend encouraging community organizations and businesses to engage with regional climate collaboratives through the statewide Alliance of Regional Collaboratives for Climate Adaptation. Local organizations can benefit greatly from participating in regional climate collaboratives by staying updated on the latest news and opportunities, leveraging limited resources to collaborate with other local organizations, and having a stronger voice in State policy engagement.	Thank you for this comment. We have incorporated it into P-2	P-2.11
ARCCA	P-3.6: expand to include bridging access challenges during nonemergency times to build individual and community adaptive capacities (i.e. improved pedestrian, bicycle, and trail infrastructure, and electric car share programs at affordable housing developments).	Thank you for this comment. CDPH has incorporated it.	P-3.6

Source	Comment Summary	Response	Edit Location
ARCCA	P-2: Climate change has become a priority for many large organizations throughout the country. The State should leverage existing efforts of national and state-wide organizations that are engaged in initiatives and calls to action on healthy communities and climate resiliency that include and are not limited to the: American Planning Association, American Public Health Association, Urban Land Institute, American Institute of Architects, American Society of Landscape Architects, American Public Works Association, Medical Society Consortium on Climate & Health and other organizations bringing together multiple sectors working at the intersection of climate change, adaptation, equity, and health.	Thank you for this comment. Excellent addition.	P-2.12
ARCCA	P-3.7: we recommend working in collaboration with local building and/or utility departments to better understand building update cycles, as well as key barriers and needs, to be successful and to obtain early buy-in.	Thank you for this comment. While CDPH does not have staff capacity to work with every local jurisdiction in the state, we do provide health equity input into statewide plans and documents that can be implemented by local jurisdictions, such as the general plan guidelines, sample Local Hazard Mitigation Plan language, and implementation of executive orders and legislation.	N/A
ARCCA	P-5.3: include making provisions to accommodate pets since pet-owners are less likely to take advantage of cooling centers if their pets are not welcome.	Thank you for this comment. Good point. We shared it with the Emergency Preparedness Office at CDPH, who did not have the capacity to take this on as an action item now. However, this item is in the Excessive Heat Contingency Plan for CA of 2014 as guidance for local preparedness planners (see page 31 on Cooling Centers: http://www.caloes.ca.gov/PlanningPreparednessSite/Documents/ExcessiveHeatContingencyPlan2014.pdf).	N/A
ARCCA	P-9: It is important to note that the health impacts of climate change should not be limited to emergencies and extreme events, but for all ongoing and gradual impacts of climate change. In many ways, Public Health has been siloed, which leads to reactionary and ineffective measures to address individual events rather than robustly building resilience and achieving meaningful adaptation outcomes.	Thank you for this comment. CDPH agrees, and thus the introduction and framing of the chapter is from a resiliency perspective, meaning necessitating improvements to inequities and underlying conditions to reduce vulnerability always, including during climate-related events.	Chapter Introduction; P-1

Source	Comment Summary	Response	Edit Location
ARCCA	P-9: We encourage working with local governments and landlords to adopt rental property inspection programs to safeguard the interests of property owners, the character of neighborhoods, and to protect the public health, safety, and welfare of individuals throughout California.	Thank you for this comment. This is beyond the scope of the public health section of this document for State agencies, but it could perhaps be incorporated into the next update of the General Plan Guidelines through OPR.	N/A
North Coast Tribal Work-shop	We have found that a public health/ social systems approach to climate resilience has been the best approach for climate change initiatives for tribes. For example, we've built environmental initiatives into Native youth and economic resilience projects. A similar lens for Safeguarding could be beneficial.	Thank you for this comment. CDPH is seeking to learn more about how tribes are addressing the health impacts of climate change, and would love to learn more about the projects you mention.	N/A
North Coast Tribal Work-shop	More research should be dedicated to the mental health effects of different climate events. There's a lot of stress and food insecurity impacts associated with not having species such as salmon that have been a central part of cultural identity and diet for thousands of years.	Thank you for this comment. Mental health has been addressed in P-5.5. Encourage agencies to make resources available to support people suffering mental health consequences related to climate change; and the introduction to P-7, "Evaluate the past, current, and likely future impacts of climate change effects on the mental health of Californians".	P-5.5; P-7 Introduction
CPEHN	Tie public health planning to climate change planning: As public health departments are making inroads on health in all policies and greater population health issues, climate change mitigation and adaptation efforts should be considered.	Thank you for this comment. CDPH addresses this from both directions: by providing tools to local health departments to engage in climate action plans (Climate Action for Health on CDPH website), and to incorporate climate change into traditional public health programs (forthcoming Guide for Local Health Departments in collaboration with PHI); and by proposing public health and equity considerations for statewide documents that deal with climate change planning (State Hazard Mitigation Plans, General Plan Guidelines, etc.)	P-2.13; P-5.3; P-5.4; P-3.4; P-3 ongoing actions
CPEHN	Expand partnerships beyond local public health departments: This sector should also look to expand partnerships beyond local health departments to community partners and organizations who can provide new, unique and important perspectives on bridges gaps with community and improving the community engagement process.	Thank you for this comment. CDPH heartily agrees and seeks to partner with community based organizations as resources allow.	P-2 introduction and ongoing actions; P-2.1, P-2.2; P-2.3; P-2.4; P-2.8

Source	Comment Summary	Response	Edit Location
ARCCA	P-6.5: include regional and local agencies with shared interests in inter-agency work groups on extreme heat. Regional and local agencies can share best practices and replicable strategies, as well as pilot intervention strategies at a smaller scale prior to statewide deployment.	Thank you for this comment. CDPH removed this action item due to lack of staff resources to coordinate such a workgroup now. Hopefully another entity with more resources and capacity will take this up.	N/A
ARCCA	P-6 Next Steps: Connecting the Department of Water Resources, Natural Resources Agencies, and CAL FIRE with local and regional water agencies to implement demonstration projects on urban greening and green infrastructure projects that have co-benefits for health, adaptation, and energy.	Thank you for this comment. This is beyond the purview of CDPH, and within the scope of other agencies and chapters.	N/A
ARCCA	P-6 Next Steps: Working with other State departments that have grant funding to include in their scoring rubric additional points when applicants and grantees engage with a local health department to identify climate adaptation and health benefits that can be or are incorporated into projects.	Thank you for this comment. Much of the work of the CDPH Climate Change and Health Equity Program involves just this type of health equity input to grant guidelines, guidance, policies, and plans.	P-3 ongoing actions
ARCCA	P-6 Next Steps: Engaging with ARCCA and its member regional climate collaboratives on urban heat island reduction efforts and to advance health and climate resiliency benefits. ARCCA can serve as a valuable channel to ensure alignment and coordination, and to avoid duplication. We also recommend engaging with ARCCA on urban-rural interface initiatives related to advancing health and climate resiliency benefits.	Thank you for this comment. CDPH incorporated it.	P-6.6
ARCCA	P-6 Next Steps: Engaging with the Local Government Commission to leverage the California Adaptation Forum as a venue to share and advance health, equity, and adaptation goals and the CivicSpark AmeriCorps program as a capacity building resource for local communities.	Thank you for this comment. CDPH does engage with both the CA Adaptation Forum, and CivicSpark, but that is a bit too specific for this document.	N/A
ARCCA	P-6 Next Steps: Providing resources to CDPH to support their efforts in providing technical assistance to local health departments in developing interventions, policies, and implementation plans to address climate change, adaptation, affordable housing, and health impacts. While many counties are leading climate and health discourse in their regions, many lack sufficient expertise and resources to meaningfully advance climate and health initiatives. CDPH staff and consultants can help fill these gaps.	Thank you for this comment. CDPH agrees, and would love to have more capacity to do this. We are doing this with existing resources. See P-2.	P-2.1; P-2.5; P-2.7; P-2.13; P-2 ongoing actions

Source	Comment Summary	Response	Edit Location
ARCCA	P-7: We recommend acknowledging the important role that public health departments play in encouraging utility providers to provide incentives for homeowners and businesses to install weatherization and energy efficiency measures. Many California utilities are already providing free shade trees and rebates on cool roofing products, but these programs need to be expanded, particularly for lower-income communities.	Thank you for this comment. Weatherization programs are addressed in multiple locations of the document, and an acknowledgement of the weatherization programs of utilities was added in the narrative of P-7.	P-1.1; P-1.4; P-1 ongoing actions; P-6.4; P-7 introduction; metrics appendix
ARCCA	P-7: We recommend continuing to work with CAL FIRE, Natural Resources Agency, Department of Water Resources, and CalTrans to maintain existing tree canopy and local and regional agencies to maintain and increase greening projects and promote green infrastructure. We also recommend increasing public outreach, awareness, and education to care for existing trees and tree canopy, and encouraging increased tree planning on private and public lands. We encourage the State to partner with community organizations to provide meaningful jobs for tree maintenance to those who face barriers to employment. tree health. Given drought, disease, and wildfires, significant amounts of tree canopy, urban greening, and carbon capture has been lost.	Thank you for this comment. CDPH is supporting the Health in All Policies Task Force Action Plan on Parks and Healthy Tree Canopy, in collaboration with other State agencies.	P-6
ARCCA	P-9.5: include resiliency in the daily businesses and services of community-based organizations. Social cohesion, access to services, and mental health support should all be standard services provided by community-based organizations. With additional trainings and resources, these organizations can fill voids that exist, which will better prepare and reduce short- and long-term impacts of climate change, extreme events, and aftercare.	Thank you for this comment. Increasing capacity of and partnering with CBOs, and fostering social capital are addressed in multiple locations in the document.	P-2.1; P2.2; P-2 ongoing actions; P-5 introduction; P-3 introduction; P-6 introduction
ARCCA	P-5.1: include locating clinics and making provisions for temporary clinics that can be mobilized in neighborhoods for improved access to care	Thank you for this comment. That is under the purview of CDPH's Licensing and Certification Branch.	P-5 ongoing actions
City and County of SF	In recommendation P-3, we also suggest including public transportation on the list of health co-benefits because of mitigation and adaptation policies and planning.	Thank you for your comment; this was added to P-3.	Recommendation P-3

Source	Comment Summary	Response	Edit Location
LCJA, CRPE, CAA, CVAQC	Dairy digesters have negative localized air impacts, further degrading the poor air quality in the San Joaquin Valley. State strategies aimed at reducing methane emissions from dairies must focus on altering the industrialized nature of dairy operations in the Valley and shifting to sustainable methods of dairy farming, rather than subsidizing the maintenance of this system. While Appendix A recommends an incentive program for non-digester manure management practices, the dairy digester program is still the main strategy included in this plan.	Thank you for this comment. Dairy digesters are under the purview of CDFA.	N/A
CADMUS	Recommendation P-4: Overall, this recommendation needs more detail. It doesn't provide the reader any information on the benefits of completing that work or the impacts if it is not done.	Thank you for this comment. The intention of the 2017 update to Safeguarding California is to be a brief, high-level, concrete document of current and future climate adaptation actions, without a lot of text for in-depth explanations or analysis.	N/A
CADMUS	Recommendation P-4: A significant omission is the benefit of synthesis of data across systems. The recommendation talks about the various efforts but does not mention the need or benefit to integrate analysis across those various systems.	Thank you for this comment. It has been integrated into the document.	P-4 introduction
CADMUS	Recommendation P-5: Recommendation P-5.1 only discusses health care facilities but not the broader healthcare enterprise that is involved in ensuring the community has access to healthcare. Impacts to dialysis centers, home care organizations, and laboratory services will all have an impact as well. The recommendation also focuses on extreme events but is there any linkage to long term issues? Perhaps not, but if so it would be helpful to mention.	Thank you for this comment. It has been integrated into the document.	Introduction to Public Health chapter
CADMUS	Recommendation P-6: Suggest enhancing the benefits to "enhancing health" as mentioned in the middle of the third paragraph.	Thank you for this comment. Further information has been added to the section.	P-6 introduction
CPEHN	Move metrics into the chapter: Any metrics being proposed that seek to address or monitor health impacts should be included within the sector report instead of being in an appendix.	Due to the different approaches to the metrics among different sectors CNRA decided to move the metrics to the appendix.	N/A

Source	Comment Summary	Response	Edit Location
Santa Ana Watershed Project Authority	W-5 and P-5/P-9 are closely connected. This connection should be emphasized in the text while also calling attention to CA-6.	Cross-sector connections are now addressed through the icons throughout the margins of the document.	Cross-sector icons
Thomas Phillips	In order to adapt to climate change in California, the California Climate Action Team (CAT, 2013) included the following recommended actions in their report, Preparing California for Extreme Heat: Guidance and Recommendations (emphasis added): a) Review and incorporate changes as appropriate, to state and local regulations, codes and industry practices for buildings, land use and design elements to identify opportunities to accelerate the adoption of cooling strategies for both indoor and outdoor environments (p. 10, Recommendation 1); and b) Evaluate strategies that could provide protection against heat and air pollution to vulnerable populations that are not based on energy intensive air conditioning (p. 17, Recommendation 4). The update of the Safeguarding CA Plan, and the Title 24 building energy efficiency standards, are a golden opportunity to finally implement recommendations from Preparing CA for Extreme Heat in the building and urban planning sectors.	Thank you for this comment. We added a next step regarding possible collaboration with CEC to provide health equity input to update of Title 24 building energy efficiency standards. Also, P-6 discusses urban and community greening at length. P-7 discusses research needs to protect vulnerable communities from extreme heat, and P-7.6, P-7.7, and P-7.8 discuss specific aspects of research on green building strategies, protection from heat, and collaboration with CEC.	P-6; P-7
ARCCA	P-1: We recommend including violence and other trauma stressors as a force that shapes living conditions	Thank you for this comment. We have incorporated it into the introduction to P-1.	P-1
ARCCA	P1.2: We recommend expanding this section to include both mental health impacts and necessary recovery from climate change.	Thank you for this comment. CDPH has incorporated this comment.	P-1.7
ARCCA	P-1.3: Include the expansion of low/no interest loans for weatherization programs	Thank you for this comment. CDPH believes that detailed discussion about financing of weatherization programs is outside the scope of this document.	N/A
ARCCA	P-2.2: expand to utilize existing preparedness programs and guides (e.g. County of Sacramento's "Are You Prepared" guides).	Thank you for this comment. CDPH has incorporated it.	N/A
ARCCA	P-3: We recommend highlighting existing certification programs in P-3.3, such as Living Futures Buildings and LEED, that address both health and climate.	Thank you for this comment. CDPH incorporated this into the document.	P-3 ongoing actions

Source	Comment Summary	Response	Edit Location
ARCCA	P-4: We encourage the inclusion of engaging with and leveraging regional climate collaboratives, many of which are committed to conducting research, developing educational tools, and engaging communities to reduce heat and wildfire-related health impacts.	Thank you for the comment. CDPH has incorporated it into the document.	P-6.6
ARCCA	P-5.6: include both resources and services. The aforementioned report, "Mental Health and Our Changing Climate", includes relevant guidance that can be incorporated.	We mentioned this in the document.	P-1.7
ARCCA	P-3: As an ongoing action, we recommend highlighting the CalTrans 2017 Regional Transportation Plan Guidelines for Metropolitan Planning Organizations. Many health-promoting policies can be found throughout Regional Transportation Plans that often incorporate many or all of the following: safe routes to school programs, complete streets strategies, equity considerations, transportation safety, and policies to promote transit, bicycling, and walking. These types of transportation-related strategies foster more accessible, livable, healthier, and resilient communities.	Thank you for this comment. The RTP Guidelines was one of the plans for which CDPH provided health equity input, so that it will be a model of health equity strategies for MPOs.	N/A
ARCCA	P-6: We recommend highlighting green infrastructure in the introduction: Use of green infrastructure for complete streets, landscape and creek/drainage corridors provides additional urban greening opportunities while also creating public health benefits through development of attractive places for people to increase physical activity, walk, bike, and socialize.	Thank you for this comment. CDPH has incorporated it into the document.	P-6 introduction
ARCCA	P-5: We suggest mentioning efforts being taken by the Department of Public Health's California Building Resilience Against Climate Effects (CalBRACE) project as an ongoing action.	CalBRACE is mentioned in numerous places; its emphasis is to improve living conditions for and with people facing disadvantage, to reduce their vulnerability to health impacts of climate change.	N/A
ARCCA	P-6.4: include connecting vulnerable populations and local health departments with local utility providers to take advantage of discounted utility rate programs and energy efficiency rebates.	Thank you for this comment. It has been incorporated in P-7	P-7 introduction; P-7.13

Source	Comment Summary	Response	Edit Location
ARCCA	P-5: We suggest adding the following in the introduction: "Good health prior to disasters supports greater resilience in the disaster setting. Those with chronic or poorly treated health conditions have found it more difficult to reestablish housing and healthcare following a catastrophe. Psychological resilience is the ability to maintain positive adaptation and mental health despite stressors in the immediate and broader environment. Disasters can also impair psychological resilience if they disrupt social networks; thereby worsening overall population health. Neurological factors may also play a role in psychological resilience. These are necessary considerations that need to be incorporated into preparedness and emergency response plans and after-event resiliency assistance and support."	Thank you for this comment. CDPH has incorporated it into the document.	P-5 introduction
ARCCA	P-7: the second bullet point of the introduction to include developing successful interventions for implementation.	Thank you for this comment; this has been incorporated.	P-7 introduction
ARCCA	P-7: the third bullet point of the introduction to include collaborating with departments of the Natural Resources Agency and Water Resources to identify potential water management practices that can help mitigate algal blooms.	Thank you for this comment; this has been incorporated.	P-7 introduction
ARCCA	P-7: We recommend including the need to identify other opportunities for neighborhood cooling sites (e.g. libraries and shopping centers) as a priority research area.	Thank you for this comment; this has been incorporated.	P-7 introduction
ARCCA	P-7: We recommend highlighting the Living Futures approach to holistic buildings that include health benefits to occupants and capitalize on the use of natural systems.	Thank you for this comment; this has been incorporated.	P-1.4
CADMUS	In the Introductory call out box, the second paragraph talks about specific facts but it does not talk about the outcomes or impacts. What is the impact of a decline of rainfall of 5-7 inches? It leaves the reader with the need to make assumptions, so providing tangible impacts that the reader can relate to would make these facts more powerful.	Thank you for this comment. The intention of the 2017 update to Safeguarding California is to be a brief, high-level, concrete document of current and future climate adaptation actions, without a lot of text for in-depth explanations or analysis.	N/A
CPEHN	Provide examples of local/state or regional partnerships with community based organizations or partners. The public health sector should do more to elevate many of the community and local public health department collaborations on climate change.	Thank you for this comment. This document is intended to be high-level and brief, from the perspective of what state agencies can do. Nevertheless, CBOs are mentioned numerous times in the document.	N/A

Source	Comment Summary	Response	Edit Location
LCJA, CRPE, CAA, CVAQC	Farmworkers are not only vulnerable to the health risks of high heat, but are also exposed to harmful toxic chemicals from the overuse of pesticides. During a Safeguarding California workshop in Fresno in May 2017, residents from throughout the San Joaquin Valley expressed a concern about pesticides being sprayed so close to homes and schools, and without consideration of the farmworkers directly in contact with the chemicals. They noted the high rates of cancer and mental health issues in their communities and attributed this to the chemicals in their food and on the field. We suggest that the Draft consider a shift to an agroecological method of producing food to reduce the need for pesticides and urge the state to support small scale and environmentally sustainable farmers.	We added agroecology to the draft. It was changed to "climate-smart agriculture" during inter-agency review. The concerns expressed at that meeting have been shared with relevant agencies.	P-3
LCJA, CRPE, CAA, CVAQC	Adaptation planning must consider food deserts and direct resources to support local organic farms, community gardens, and opportunities to build community-level food sovereignty. Examples of such resources are state-led research into diversified crop production, low-input and organic production techniques, and climate resilient soil management practices on-farm, as well as direct subsidies to small-scale farms who produce fresh fruits and vegetables to local markets, such as the CDFA Specialty Crop Block Grant.	Thank you for this comment. Equitable access to healthy foods reduces vulnerability to the health impacts of climate change, and this is mentioned in the Public Health chapter. Food security is addressed in P-3, as is climate-smart agriculture and the benefits of practices to increase soil organic matter.	P-1; P-3
ARCCA	P-1: The Sacramento Area Council of Governments Rural-Urban Connections Strategy program has conducted research and compiled data on food distribution, making an economic case to keep food local and to not sell crops to major exporting distributors, similar studies and findings could be replicated across the state.	Thank you for this comment. That is a great suggestion for the non-energy research plans of the 5th California Climate Assessment.	N/A
North Coast Tribal Workshop	Make sure that state agencies stay looped into climate change partnerships such as the North Pacific Landscape Conservation Cooperative. These groups focus on building ongoing relationships with tribes based on mutual respect and can help flag and address issues proactively instead of in a reactive way.	Thank you for this comment. We appreciate the tip about this organization.	N/A

Source	Comment Summary	Response	Edit Location
The Nature Conservancy	TNC is pleased to see that Public Health sector prioritizes vulnerable and disadvantaged communities. As discussed in our group letter of June 23rd, climate change results in a disproportionate impact on vulnerable populations and disadvantaged communities thus strategies that benefit these communities should be prioritized, as required by AB 1482 and EO B 30-15. The Plan should require that low-income people and disadvantaged communities benefit from the full advantage of adaptation strategies (such as energy retrofits, green buildings and green infrastructure, urban forestry) that have up-front costs and health, economic, and cultural co-benefits longer-term.	Thank you for this comment. We agree completely, as discussed in the Public Health chapter, especially P-1	N/A
The Nature Conservancy	TNC is also pleased to see the priority given to urban greening and urban forestry and recommend that this natural infrastructure strategy be prioritized, especially in vulnerable and disadvantaged communities. Urban greening illustrates how conservation of nature and forests can help communities respond to increased temperatures, while also sequestering carbon, lowering energy demand, creating more livable communities, and providing habitats for birds and animals. Given the important role urban greening plays in the public health, energy and forestry sectors, this should be included in the cross-sectoral work group discussed above a more robust urban forestry program in California.	Thank you for this comment. Urban and community greening are indeed essential for health equity. Greening is discussed in P-3, P-7, and extensively in P-6 including the Health in All Policies Action Plan to Promote Parks and Healthy Tree Canopy.	N/A
Coachella public work-shop	Vector Control: information from CDC that means we can expect new diseases. Low impact development sometimes means rain barrels, and this can help brew more mosquitos. Is the CDPH creating a mosquito borne plan, or doing anything to address this?	Yes, extensive activities of the CDPH Vector Borne Disease Branch are discussed in P-4, including the California Mosquito-Borne Virus Surveillance and Response Plan.	P-4
Merced public work-shop	Food security is a big problem facing our community. This did not seem to be discussed in the presentation.	Thank you for this comment. Food security and access to healthy foods are discussed in P-1, and P-3.	N/A
Coachella public work-shop	Where and how to access nutritious food is one of the highest priority issues in the region. It is insulting to not be able to access these foods in a place where the agriculture industry is so large.	Thank you for this comment. Food security and access to healthy foods are discussed in P-1, and P-3.	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
Coachella public work-shop	In farm-working communities like this one, we want to provide education, awareness and health services to these farmworkers who will be exposed to increased pests and subsequent pesticides and the change of seasonalities due to climate change. Over a third of our residents are outdoor workers. We want to look at this more holistically since farmworkers will be dramatically affected by changing economic and health patterns due to climate change.	Thank you for this comment. Farmworkers and other outdoor workers are particularly vulnerable to the health impacts of climate change. Farmworkers are discussed in P-2, P-3, and issues of pests and pesticides are discussed in P-3, as are DPR's efforts towards reduced-risk pest management.	N/A

Transportation Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
Bay Area Stormwater Management Agencies Association	Incorporating green stormwater infrastructure in roadways, such as through stormwater curb extensions, sidewalk infiltration planters, street trees, and rain gardens that capture, infiltrate, and treat runoff, creates "Green Streets" that improve water quality, reduce urban flooding, recharge groundwater, mitigate urban heat islands, and enhance the bicycle and pedestrian environment.	We agree; this change was made.	T-4
Bay Area Stormwater Management Agencies Association	T-4 should include a new "next step" that specifically supports implementation of Sustainable Streets as part of the State's Active Transportation Program and other relevant programs, such as the Natural Resources Agency's recent Urban Greening Program.	A definition of "Sustainable Streets" would be needed to make this change.	N/A
Union of Concerned Scientists	The Update should clarify which state agency will be taking on each Next Step and Ongoing Action including a specific timeline for initiation and completion.	This is not within the scope of the document.	N/A
Union of Concerned Scientists	Recommendation T-1: The Update should recognize efforts from local and regional groups such as BCDC and MTC's sea level rise mapping for the Bay Area as well as commit to a process to share this data.	T-1.2 was added to mention working with local and regional groups, where applicable; this is also addressed in T-2.4.	T-1.2
Union of Concerned Scientists	Recommendation T-1: "Next Steps" should include the California State Transportation Agency or Caltrans to integrate the various existing and nearly complete vulnerability assessments for different transportation assets and systems.	We agree; this change was added.	T-1.2
Union of Concerned Scientists	Recommendation T-4: State transportation agencies should coordinate with the private sector in addition to local, regional, and federal partners to ensure consistency and compatibility of the solutions being implemented. Caltrans should also review the Highway Design Manual for potential updates based on the results of its vulnerability assessments and other relevant information.	Where private sector adaptation plans are addressed at a local level, the State encourages coordination.	T-2; T-5
Union of Concerned Scientists	Recommendation T-5: This section should identify specific solutions to address equity issues for transportation systems and partner with vulnerable populations in transportation decisions. For instance, differences in transportation access between urban and rural areas, or across vulnerable groups (e.g., elderly, low-income, and disabled communities), could influence just how resilient a community is to climate change.	We agree; this change was added.	T-5.3

Source	*Comment Summary*	*Response*	*Edit Location*
City and County of SF	We believe that the economic importance and risk of inaction or failure is not highlighted enough. For example, although the Plan cites the number of airports and seaports among other important transportation infrastructure assets that need protection, it does not go on to describe the economic importance of these transportation centers and conveyances to the State. A failure at these locations would result in catastrophic economic loss for the surrounding region and State.	Noted; a sentence in the chapter introduction was edited to emphasize this.	Chapter introduction
City and County of SF	Recommendation T-1 (p. 61): We agree it is important to understand climate trends and the risk they pose for transportation infrastructure and assets. We believe in addition to transportation assets, it will be useful to determine how climate change may affect congestion management programs and emergency vehicle access on various routes.	We agree; this was added to T-2.1 and was already discussed in T-4.9 and its ongoing actions.	T-2.1
City and County of SF	Recommendation T-3 (p.63): As an example, we would point out that the FEMA Flood Insurance Rate Maps (FIRM) requirements address mitigation differently and does not look at long term climate change and sea level rise in the same way. We believe the state could provide guidance and leadership in this area.	Noted.	N/A
City and County of SF	Recommendation T-5 (p.66): We support outreach and education efforts to strengthen local understanding of climate impacts on public health, energy systems, and transportation, and empowering residents to become involved in the decision-making process. We encourage the State to conduct public opinion surveys as a next step and to share this information with jurisdictions regarding the effectiveness of already-existing and newly proposed outreach and educational programming to strengthen future outreach efforts.	Acknowledged.	N/A
LCJA, CRPE, CAA, CVAQC	The state must also direct more transportation investments to transit operations and active transportation infrastructure in disadvantaged communities. In rural areas where traditional modes of public transit may not be efficient, other innovative models must be considered, such as vanpool and carshare programs.	More transit and active transportation funds are available through SB-1 grants.	N/A
CADMUS	Recommendation T-2: We recommend including additional on-going actions for T-2.	A point was added to T-2 about Caltrans developing adaptation strategies and recommendations.	T2

Source	*Comment Summary*	*Response*	*Edit Location*
CADMUS	Very few of the recommendations specifically address prioritization of adaptation and resiliency efforts. The state should consider adding recommendations that help decision-makers allocate resources between two or more locations or transportation assets.	Wording was added to T-3.2 to address this comment: "and which include social and environmental metrics in order to help facilitate alternatives analysis and project prioritization."	T-3.2
CPEHN, Human Impact Partners, Greenlining	Acknowledge role of transportation on health: Transportation plays a significant role in connecting people to well-paying jobs, affordable housing, and improving economic opportunities in vulnerable communities in addition to its tremendous impacts on air quality. The report should identify goals that include having a strong public transportation system that addresses community needs, provides more options to improve resilience such as investing in bus systems, and identifies community points of vulnerability (not just transportation sector's).	The introduction to T-2 was edited to acknowledge this. See also T-5.2 and ongoing actions under T4.	Introduction to T-2
CPEHN, Human Impact Partners, Greenlining	Update transportation plans and goals: Many transportation plans were created years ago yet we have made great strides in identifying and addressing climate change. Therefore, these plans should be further updated with a focus on reviewing older proposed projects – to ensure they are still relevant based on current needs, opportunities, and climate change goals.	Agreed; see T-3.1.	N/A
CPEHN, Human Impact Partners, Greenlining	Address transportation equity issues: Several issues are not adequately addressed in the report such as accessibility for low-income, disabled, elderly and other communities, and differences in access between rural, urban or suburban areas. These issues should be further accessed and addressed in the report and how a community's climate resilience will be impacted.	Language was added to T-5.3 to better address equity issues in transportation.	T-5.3
CPEHN	Create concrete policy goals: The report should create real and concrete policy goals to track and monitor progress. There is need for more specificity of recommendations in active transportation such as specific goals for bike sharing, improving walking and biking, and moving away from the reliance on fossil fuels.	For more specificity, please refer to the California Transportation Plan. Safeguarding California is intended to provide a high-level overview of current climate change adaptation work and future goals.	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
CPEHN, Greenlining	Goods movement and industry: Industries must also have climate change in mind. They should be tasked with developing a climate adaptation/resilience plan that not only looks at how the port is resilient but also how port activity can support and build community resilience. The report should also include strategies on working towards zero or near zero emissions for goods movement (link expansion efforts to pollution cleanup).	This document focuses on climate adaptation, not GHG/pollution reduction and other mitigation topics.	N/A
CPEHN, Greenlining	Education and outreach: It is critical for public transportation systems to be coordinated so that when there are emergencies they can help with evacuation efforts. We should start these efforts now.	We agree; this was added to T-5.4.	T-5.4
SoCalGas	We also encourage the expansion of Compressed Natural Gas (CNG) infrastructure in order to support the adoption of near-zero-emission natural gas engines. These engines provide a commercially-proven and cost-effective strategy to immediately achieve major reductions in emissions of greenhouse gases from California's on-road heavy-duty transportation sector. Although heavy-duty trucks only represent one percent of vehicles on the road, they account for 14% of on-road vehicle greenhouse gas emissions. When powered by renewable fuels, near-zero emission trucks can reduce greenhouse gas emissions by at least 70 percent. We believe this clean technology can help catalyze California's transition to a clean air future by jump-starting the market for these extremely carbon-low and in some cases, carbon-negative renewable fuels. Recommendation T-4 mentions ongoing actions to expand electric and hydrogen fueling infrastructure; we suggest the inclusion of expanded CNG/RNG fueling infrastructure to take advantage of this new engine technology.	This document focuses on climate adaptation, not GHG/pollution reduction and other mitigation topics.	N/A
Greenlining	The CalTrans Vulnerability Assessment will be used to inform new transportation policies. The assessments must discuss threats to low income communities and communities of color. These communities have limited transportation options and rely heavily on public transit, especially during extreme weather events. As the state prepares the Transportation Sector for climate change, it	Although this is not in scope of Vulnerability Assessments, SB1 grants do include consideration of disadvantaged communities. Language has also been added to T5 to address vulnerable populations (which would include low	T-5

Source	Comment Summary	Response	Edit Location
	must discuss how low-income communities of color will be impacted by new transportation policies.	income communities and communities of color).	
ARCCA	We recommend that analysis of the climate vulnerability of roads and highways use a regional perspective, and coordinate with regional analyses and with regional climate collaboratives. Analysis should not focus on roads or transportation systems in isolation, but should focus on what they are linking.	Agreed. Refer to T-1.2 and T-2.4	N/A
ARCCA	We recommend greater coordination with the Energy chapter regarding ensuring the resilience of vehicle fueling infrastructure, which should consider the increasing proportion of electric vehicles (including electric transit and school buses), natural gas vehicles, and hydrogen vehicles. Solar-powered vehicle charging stations combined with microgrids and battery storage can help boost transportation resiliency while helping to power critical infrastructure.	Acknowledged. Caltrans will continue coordinating with the CEC. See T-2.4	N/A
ARCCA	T-4.4: We recommend, where possible, maximizing the use of natural solutions to achieve multiple benefits, such as groundwater recharge, stormwater management and flood prevention, mitigating urban heat island effect, neighborhood beautification, and providing a more pleasant environment for pedestrians and bicyclists.	Noted; language was added on natural infrastructure in T-4.	T-4.4
ARCCA	It is not clear what kind of assistance, if any, will be provided to local jurisdictions for identifying the vulnerabilities of locally managed roads, transit infrastructure, and sidewalks. Under Ongoing Actions for T-1 and T-2, it appears that vulnerability assessments conducted by CalTrans will only focus on the state highway system. We recommend CalTrans explore the additional costs of including local roads into the assessment as some of the baseline work of projecting climate impacts would apply to all transportation infrastructure within a system.	Senate Bill 1 Adaptation Grants are available for this purpose. Also, Caltrans aims to provide suggestions and climate data for local use as part of both the assessments and upcoming adaptation work.	N/A
ARCCA	T-4.7: we recommend integrating this strategy with urban heat island mapping and analysis to understand where shading and water would be most crucial.	Noted; language was added on extreme heat in T-4.	T-4.7

Source	Comment Summary	Response	Edit Location
ARCCA	T-4: We strongly support T-4 and the focus on resilience, mobility, and accessibility – not just infrastructure and concrete. Strategies like T-4.6 can help save lives, and we recommend that transit providers work with public health agencies to develop emergency programs such as free rides during extreme heat days and heat waves. Providing real-time bus arrival information, in combination with passive shading, can also help improve the comfort of riders during hot days.	Acknowledged, thank you.	N/A
Port of San Diego	Due to the location of ports along California's coasts and harbors, they are susceptible to rising sea levels and severe storms. While the Plan identifies policies and strategies to "Improve transportation system resiliency" (T-4), we are concerned the 2017 Update does not adequately distinguish and prioritize water-dependent and water-related uses that are important economic engines for California. These uses may require specific structural strategies to become resilient to climate change impacts. We highly encourage the CNRA to include additional policies and strategies in the Plan that differentiate and prioritize water-dependent and water-related uses from non-water dependent/related uses and the transportation infrastructure, specifically water-based systems, upon which they rely.	Noted; T-1 was edited to include sea ports.	T-1.1
Bay Area Stormwater Management Agencies Association	The update should make a strong connection between the Transportation and Water sectors regarding stormwater management. Currently, the Transportation recommendations seem focused on impacts to transportation infrastructure because of climate change and not on the role transportation infrastructure plays on in both causing and adapting to climate change impacts related to stormwater runoff, flooding, and increased temperature. Transportation infrastructure makes up a significant amount of the impervious surfaces in urbanized areas, with streets and parking lots often constituting 25-50% of urbanized land areas. As such, transportation infrastructure is a major contributor to stormwater runoff and associated pollutants, as well as to urban heat islands.	Language was added to T-4.4a to investigate transportation infrastructure that leads to other benefits such as stormwater management and flood prevention.	T-4.4a

Source	*Comment Summary*	*Response*	*Edit Location*
Union of Concerned Scientists	Recommendation T-3: The Update should include more detail or examples of how Caltrans is "ensuring consideration and incorporation of climate change and vulnerabilities across divisions."	The first bullet in the ongoing actions of T-3 addresses this comment, and mentions an upcoming Departmental Review.	T-3 ongoing actions
CADMUS	Recommendations T-1 and T-2: We recommend removing this sentence because it is redundant with the following sentence: "The State's transportation infrastructure is a global gateway for products entering and leaving the US."	Noted.	N/A
CADMUS	In the introductory text of the Transportation chapter, we recommend including more discussion about which of the transportation sector's assets are more vulnerable to climate change. Currently, the list starting in paragraph 4 (starting with the words "Climate change impacts"….) is just a list. It would be helpful to know which impacts should be the highest priority.	Specific assets at risk are identified in vulnerability studies. Risks will vary based on each vulnerability assessment and these details are beyond the scope or intent of this document. Since vulnerability is often comprised of an asset's sensitivity, adaptive capacity, and consequence of failure, infrastructure owners will need to determine which assets they believe to be most vulnerable.	N/A
CADMUS	Recommendations T-1 and T-2: We recommend better differentiating Recommendations T-1 and T-2. As written, it appears T-1 is more concerned with understanding impacts and T-2 is more concerned with vulnerability. This difference could be made clearer. Additionally, it would make more intuitive sense to first discuss vulnerability then discuss impact.	Noted.	N/A
CADMUS	Recommendations T-1 and T-2: We recommend including a citation to a paper or report in the call-out box discussing the Laurel Curve. To the uniformed reader, the change in fauna habitat could be attributed to the human encroachment (i.e., new housing developments) rather than climate change.	This call-out box was removed and replaced with a more relevant adaptation example for the final version of the document.	Example on Highway 1 Piedras Blancas Realignment
CADMUS	Recommendation T-3: We recommend being more specific about this on-going action: "Caltrans is ensuring the consideration and incorporation of climate change and vulnerabilities across divisions."	The first bullet in the ongoing actions of T-3 addresses this comment, and mentions an upcoming Departmental Review.	T-3 ongoing actions
CADMUS	Recommendation T-5.2a: We recommend correcting the indentation of this recommendation.	Noted, this formatting change was made.	T-5.2

Agriculture Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
LCJA, CRPE, CAA, CVAQC	Farmworkers are not only vulnerable to the health risks of high heat, but are also exposed to harmful toxic chemicals from the overuse of pesticides. During a Safeguarding California workshop in Fresno in May 2017, residents from throughout the San Joaquin Valley expressed a concern about pesticides being sprayed so close to homes and schools, and without consideration of the farmworkers directly in contact with the chemicals. They noted the high rates of cancer and mental health issues in their communities and attributed this to the chemicals in their food and on the field. We suggest that the Draft consider a shift to an agroecological method of producing food to reduce the need for pesticides and urge the state to support small scale and environmentally sustainable farmers.	The California Department of Pesticide Regulations sets regulations regarding farmworker and resident protection as related to the use of pesticides on farms, so this is outside of the scope for the authors of this chapter.	N/A
LCJA, CRPE, CAA, CVAQC	Any state strategy to build community resilience must include robust strategies for protecting farmworker health, as farmworkers are most vulnerable to extreme heat. We suggest that the Draft focus on engaging rural and farmworker communities through direct outreach that includes language translation, childcare, and food to gather meaningful input on cooling center siting and to identify farmworker health concerns. The State should also partner with farmworkers to ensure that federal farm labor regulations are enforced.	We agree; this suggestion was incorporated into the Public Health chapter: cooling centers are discussed in P-5.2 and farmworker health is discussed in P-2.10 and in the introduction to P-3.	P-2.10; P-3; P-5.2
LCJA, CRPE, CAA, CVAQC	Adaptation planning must consider food deserts and direct resources to support local organic farms, community gardens, and opportunities to build community-level food sovereignty. Examples of such resources are state-led research into diversified crop production, low-input and organic production techniques, and climate resilient soil management practices on-farm, as well as direct subsidies to small-scale farms who produce fresh fruits and vegetables to local markets, such as the CDFA Specialty Crop Block Grant.	We agree; we worked with the authors of the Public Health chapter to incorporate food security into recommendation P-3.	Introduction to P-3; P-3.1; P-3.2; P-3.3
LCJA, CRPE, CAA, CVAQC	Dairy digesters have negative localized air impacts, further degrading the poor air quality in the San Joaquin Valley. State strategies aimed at reducing methane emissions from dairies must focus on altering the industrialized nature of dairy operations in the Valley and shifting to sustainable methods of dairy farming, rather than subsidizing the maintenance of this system. While Appendix A recommends an incentive program for non-digester manure management practices, the dairy digester program is still the main strategy included in this plan.	We placed additional emphasis on the Alternative Manure Management Program. Many would disagree with the statement that the nature of dairy operations in the San Joaquin Valley is unsustainable. The use of dairy digesters to produce renewable energy is one technology that can contribute to the diversification and positive contributions of the dairy industry.	A-3

Source	Comment Summary	Response	Edit Location
		Air impacts of digesters are a concern and ultimately must be mitigated.	
LCJA, CRPE, CAA, CVAQC	We support holistic and comprehensive solutions to these waste management challenges that minimize local air quality and water quality impacts, support markets for sustainable agriculture, and replace fossil-fuel inputs. Compost production is an elegant answer to many of the contamination problems related to waste disposal. Compost production results in a soil amendment product which can be used to replace fossil fuel fertilizers and agricultural pesticides and fumigants while also restoring water-holding capacity and other positive attributes to the San Joaquin Valley's dry and depleted soils. We would like to see compost production and use be named as an ongoing solution to waste management in perennial orchards and on dairies, and soil health be privileged as a tool to displace harmful and dangerous chemicals on farms.	We agree that compost use offers many potential benefits to farm production and the environment. An edit was made to the introduction to A-3 to find synergies between dairies and soil health. A research project in California's Fourth Climate Change Research Assessment will also investigate this topic ("Soil Water Dynamics, Carbon Sequestration, and Greenhouse Gas Mitigation Potential of Using Composted Manure and Food Waste on California's Rangelands").	A-3
California Association of Sanitation Agencies (CASA)	In support of the Healthy Soils Initiative, CASA recommends using a replacement fertilizing/soil amending material that reduces water demand, reduces GHG emissions, sequesters carbon in the soil below, and provides other co-benefits. Specifically, land application of highly treated wastewater solids (biosolids) should be considered as an efficient recycling practice that avoids use of fossil fuel intensive synthetic fertilizer (requiring approximately 0.22 gallons of fossil fuel per pound of inorganic nitrogen), reduces water demand, and sequesters carbon in the soil. Studies have shown that land applied finished compost and other biosolids serve to increase carbon storage in the soil. One of these studies showed that over a 34-year reclamation project, the mean net soil carbon sequestration was 1.73 (0.54-3.05) megagrams of carbon per hectare annually in biosolids amended fields as compared with -0.07 to 0.17 megagrams of carbon per hectare annually in synthetic fertilizer controls, demonstrating a high potential of soil carbon sequestration by the land application of biosolids.	We agree with the statement that soil amendments can have many benefits; an action was added in A-2.5, "Work with stakeholders and the California Air Resource Board to incorporate additional management practices into the Healthy Soils Incentive Program as research provides support."	A-2.5
CADMUS	The focus and justifications provided in the document on greenhouse gas (GHG) emissions reduction seems misplaced and forced at times when adaptation would be a better fit. Is there a reason to target mitigation rather than adaptation here?	We have tried to provide explanation within the draft as to why they are also programs that contribute to adaptation. Additionally, current funding for these programs is focused on mitigation.	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
CADMUS	Recommendation A-1.4: University extension units and local conservation districts often provide these demonstrations. How will this effort supplement or fill gaps beyond what those organizations are already doing? If demonstration projects are funded, they should be targeted at climate adaptation that compliments but does not duplicate already well-known soil and water conservation measures.	The purpose of the demonstration projects described is educational (farmer-to-farmer learning), not research.	N/A
CADMUS	Recommendation A-3: The next steps appear to mostly address GHG emission reduction at the end of the value chain in manure management and energy efficiency in milk processing and production. It does not appear to address efficiencies in digestion and reduction in methane emission through analysis of fodder products and combinations that improve digestion and reduce emission as well as vitamin additions, etc. This is a missed opportunity for the strategy.	No change was made; until the costs and other trade-offs associated with dietary changes for reduced enteric fermentation are well understood, it does not appear to be an appropriate strategy to recommend at the state level.	N/A
CADMUS	There is no indication of target zones or target value chains for the agricultural climate interventions (e.g., the Central Valley) or whether there is a prioritization system. It is not clear that the entirety of the California agricultural industry has been considered including wine growing regions, higher elevation orchards, and specialty horticulture crops. Are these also a target of the next steps and grants programs? Will the resulting support programs consider cost-benefits and prioritize (e.g., selecting areas where GHG reductions will be greatest, or where the largest land areas come under improved management)? Without clear indicators associated with the next steps objectives, the targets of the interventions are unclear. Also, there is also no indication that certain water intensive crops or crops considered ill-suited for new climate realities would be considered for grants funding. Prioritization of specific value chains are zones of interest may be useful from a cost standpoint and to maximize impact.	We added a brief paragraph to the chapter introduction to provide a basic vision of what climate-change resilient agriculture looks like. CDFA's mission (and the goal of its programs) is to promote and protect CA ag industry as a whole; the target is for the CA Agriculture industry to remain strong despite increasing pressure of climate change: this includes wine growing regions, higher elevation orchards, and specialty horticulture crops. For objectives/ criteria of each grant program, please follow the links to complete program descriptions provided in the text.	Introduction to Agriculture chapter
CADMUS	Recommendation A-2: First sentence: The Mediterranean climate is an incredibly productive zone primarily for dry zone crops, but for the broader production in which it engages, it relies heavily on irrigation systems sometimes transferred from long distances. This thinking that it is naturally suited to food production masks the inherent climate vulnerabilities of agricultural activities in these agro-ecological zones. In fact, these low precipitation areas are naturally better suited for livestock grazing rather than crop production.	This statement is not within the scope of this document, since it is not a vulnerability assessment.	N/A

Source	Comment Summary	Response	Edit Location
CADMUS	Recommendation A-4: Farmland conservation should consider long time horizons to be effective with at least 30 year cycles rather than 10 year agreements often the target of land conservation programs. Substantial benefits will only be realized after these longer periods, and the shorter time horizons are also more prone to swings in markets and political climates. Longer horizons are more insulated from these swings.	We agree that long time frames and permanence are critical, but this is not within the control of CDFA.	N/A
CADMUS	Recommendation A-5: Farmer-to-farmer efforts can be extremely useful. These conversations should also leverage the relationships and expertise of local extension agents. Agro-input suppliers and workers in the industry should also be engaged and educated as part of the target audience.	We agree; A-5 was edited to better reflect these groups.	A-5
CADMUS	Recommendation A-4: Local zoning offices must also be engaged because the economic benefit to an individual for converting farmland to commercial or residential development likely far outweighs the economic benefit of conservancy programs. Solidifying urban planning that includes retention of farm conservancies will be important in balancing development objectives with conservation objectives.	We mention General Plan Guidelines related to this suggestion in A-4.4.	N/A
Agricultural Council of California	We recommend the Draft Report also recognize future areas of on-farm climate action and savings through possible incentives.	We cannot make inferences of what new or future incentives may be offered, but will include them in public plans and documents as they are developed.	N/A
Agricultural Council of California	Missing from the Draft Report is an appropriate recognition of the potential for effective utilization of agricultural biomass materials. Environmental benefits of energy created from biomass include reducing carbon emissions, diverting waste from landfills and reducing the demand for fossil fuels. As currently structured, the biomass industry's electric generation facilities provide an important outlet for over one million tons of biomass material from agricultural operations. However, the need for an outlet of agricultural materials is greater than the available facilities. Agricultural materials can and do combine with materials from urban and forest biomass to optimize the efficacy of the facilities. The state should make efforts to retain the existing available facilities as well as create opportunities for additional types of outlets for the materials.	Although we agree that this issue is critical, CDFA's authority on biomass utilization is limited. A next step was added on recommendation A-1 regarding wasted organic resources.	A-1

Source	Comment Summary	Response	Edit Location
Agricultural Council of California	Precision agriculture is helping farmers stay ahead of the curve and we agree that the state can also play a role by developing tools, data and incentives to increase resiliency on-farm. However, we are concerned about the state's desire to take on a more active role in determining the best locations of crop plantings. The Draft Report states, "As the climate changes, the state will need to assist farmers in assessing what crops can be grown in which regions of California." Farmers are already growing crops that are best suited for environmental conditions and market opportunities. Having the state step in to dictate what crops should be grown due to environmental impacts, disregards investments made in infrastructure, proximity to food processing capabilities and contracts held in the marketplace. By disregarding these factors, the Resources Agency could require farms to truck their products further distances for processing, therefore increasing the climate footprint by increasing transportation miles.	That was not the intent of the language; this sentence was deleted.	Introduction to Agriculture chapter
ARCCA	We recommend considering whether a transition in crop mix should occur and over what timescale.	This is not within the scope of the document or CDFA's authority.	N/A
ARCCA	Outreach described in this chapter is farmer to farmer or farmer to research institutions. The public should also know more about the nutritional and environmental impacts of food choices, as well as the importance of reducing food waste. We recommend considering appropriate strategies and mechanisms for achieving greater levels of public education and engagement.	We agree that public education on nutrition is very important along with waste reduction/prevention. However, this is not necessarily within CDFA's current role as a state entity to promote and protect agriculture. Nutrition is discussed in the introduction to recommendation P-3 and in P-3.1.	N/A
ARCCA	A-4: We recommend that state policies and investments be geared toward assisting local communities in agricultural regions to reduce the conversion of agricultural land to urban uses through improved agricultural management practices. We suggest addressing existing state policies and programs that are designed to reduce the conversion of farmland to urban use and propose improvements in implementation or the statutory authorities themselves that would make them more effective. Examples include the Williamson Act, Cortese-Knox-Hertzberg Act, California Environmental Quality Act, AB 857, SB 375, California Farmland Conservancy Program, Sustainable Agricultural Land Conservation Program.	The Sustainable Agricultural Lands Conservation Program (SALC), funded by the California Climate Investment Fund, incorporates management practices to reduce land conversion and provides funds for local agencies. This program and other related state programs for farmland conservation are addressed in A-4.	A-4

Source	Comment Summary	Response	Edit Location
Agricultural Council of California	Farmers are already using state of the art technology such as satellites, drones, sensors, and laser-guided tractors to collect thousands of data points about the environmental conditions in a field, such as temperature, humidity, soil composition, or slope of the land. Using these precision agriculture techniques, farmers could reduce their environmental footprint by matching land management practices to the unique environments on their farm.	We agree; this technology can also advance climate adaptation.	Introduction to Agriculture chapter
San Diego Tribal Workshop	Since many tribes have land set aside for growing crops, there should be something about working with tribes in the Agriculture section. If tribes knew about these programs such as Healthy Soils, they would probably apply.	We agree; we can coordinate with tribal liaisons to increase communication about programs to California Tribes. We added an ongoing action under A-5 regarding reaching new recipients for climate smart ag incentive programs.	A-5
LCJA, CRPE, CAA, CVAQC	It is important that the Biodiversity and Habitat IAP mention the efforts on Carbon Sequestration on Natural and Working Lands led by the California Department of Food and Agriculture and the California Natural Resources Agency. These efforts are acting to improve climate resiliency through conservation management, private sector partnership, and biodiversity and habitat protection, particularly around forestry. This working group is investigating ways to create economic opportunity for working families out of the crisis of climate change, a keystone of building resilience and safeguarding California.	Noted.	N/A
ARCCA	W-4: We recommend a greater consideration of saltwater intrusion in the Delta and its effects on drinking water, Delta residents, and agriculture.	Noted; we agree that this is an important research and communication need.	N/A
CADMUS	We recommend that the chapter title and introduction section clearly state that the section covers livestock as well as horticulture and row crops.	We ensured that livestock are included within the chapter introduction.	Introduction to Agriculture chapter
CADMUS	As it stands now, the introduction section (pg. 69), while notably a summary, does not mention some important issues regarding climate change and agriculture such as temperature extremes may exceed those suitable for germination of certain varieties. Also, the effect of erratic rain on soil structure, top soil retention, and slope stability is not mentioned as a critical consideration. We recommend that these factors be considered and integrated into this chapter.	We added several sentences to the introduction on the complexities of climate change impacts.	Introduction to Agriculture chapter

Source	Comment Summary	Response	Edit Location
CADMUS	How were GHG reduction funds used for increasing available drip irrigation (see call out box pg. 69)? Was this a correct statement? GHG emissions are reduced because of the conversion of diesel motors to more efficient or solar pumping systems? We recommend that these questions be considered and integrated into this chapter.	A variety of strategies are eligible for funding, including this one; they show quantified GHG reductions through a calculator developed by ARB. We edited A-1 to clarify that project types vary, but all projects must reduce GHG emissions and save water.	A-1
CADMUS	Recommendation A-1.3: How will the grants programs utilize existing federal programs which are regionally or locally managed such as those through the Natural Resource Conservation Service of USDA or the local Soil Conservation Districts. Since these already provide funding and extension resources for farmers they should be crossed linked with these grant and collaboration other efforts.	We agree; both NCRS and Soil Conservation Districts are partners for incentive programs, providing both program input and participating as resources for applicants. We added verbiage to A-5 to convey that incentive programs rely upon input and collaboration with NRCS and RCDS.	A-5.3
CADMUS	Recommendation A-2: Recommendation A-2-1: Again, the focus is on GHG emissions. Is the major input from diesel pumps? If the system is supplied by solar power or utilizes solar pumps, then the emission reduction would be minimal.	This call-out box was replaced for the final version of the document with the example of "Advancing Water Management in Merced County."	N/A
SoCalGas	This summer, as part of a project with waste management company CR&R Environmental, SoCalGas will complete a 1.4-mile pipeline that will bring carbon-neutral renewable natural gas into the SoCalGas distribution system, marking the first time that renewable natural gas supply will be directly interconnected with and piped into the SoCalGas system. The anaerobic digestion facility in Perris, California, utilizes source-separated organic waste collected in cities' green collection carts to produce renewable natural gas. SoCalGas is also committed to working towards the success of the dairy pilots required as part of Senate Bill 1383 (Lara) implementation, mentioned in Recommendation A-3. SoCalGas strongly supports efforts to find synergies between renewable energy and making greenhouse gas emissions reductions from dairies and other sources of organic waste.	Thank you, we appreciate the comment on collaboration and commitment to renewable energy generation and agricultural inputs.	N/A
CADMUS	Recommendation A-2: Next Steps: The next steps for addressing reduced water availability or access does not mention competition or clearly tie to other sections of the strategy related to domestic and household uses of water.	This is beyond our scope or authority.	N/A

AGRICULTURE

Source	*Comment Summary*	*Response*	*Edit Location*
CADMUS	Recommendation A-3: Yes, the flexibilities in choosing incentives have been shown to be critical in successful and long-term sustainability is linked to flexibility and self-selection.	Noted; we agree that programs should be flexible.	N/A
California Association of Sanitation Agencies (CASA)	There was no mention of bioenergy sources (specifically, biogas and sewage sludge) from POTWs. Increasing the production and use of biogas (bioenergy) at POTWs provides numerous co-benefits, including: (1) reduced GHG emissions through the increased capture and utilization of biogas; (2) increased production of renewable energy displacing fossil fuel use, which helps meet the renewable portfolio standard (RPS) goals under AB 32 and SB 32; (3) avoided landfill methane emissions from decomposition of high-strength waste (e.g., food waste) by diverting that waste to existing anaerobic digesters at POTWs having excess capacity; and (4) production of low carbon intensity fuels designed to meet the low carbon fuel standard (LCFS) under AB 32 and SB 32. In addition, increased energy generation and cogeneration (i.e., combined heat and power - CHP) capacity at POTWs may provide the most reliable (i.e., sustainable) source of distributed generation currently available, with the added benefit that POTWs will always need to be located relatively close to the customers they serve (be a local source of energy). Resource recovery and energy generation activities will generally be conducted onsite at the treatment facilities, making energy generation and distribution at numerous treatment facilities a key component to distributed generation.	The incentive program could evolve to include additional management practices in the future; we added a bullet on developing a process for incorporating new management practices to A-2.	A-2
ARCCA	P-1: The Sacramento Area Council of Governments Rural-Urban Connections Strategy program has conducted research and compiled data on food distribution, making an economic case to keep food local and to not sell crops to major exporting distributors, similar studies and findings could be replicated across the state.	Noted; thank you for the suggestion.	N/A

Biodiversity and Habitat Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
Pacific Forest Trust	The biodiversity and forests chapters should be better integrated as biodiversity goals cannot be achieved without forests.	We agree; we worked with CNRA and CAL FIRE to better address biodiversity in the Forest section.	Edits throughout Forest chapter
City and County of SF	p.75: We suggest mentioning California's unique status as a global biodiversity hotspot, one of only 36 in the world and the fact that climate change only makes the situation more severe. We recommend acknowledging the important role that climate-appropriate urban greening (streets, parks, rooftops, and smaller open spaces) can play in a regions larger ecosystem services and biodiversity. This comment also supports the broadening of B-1, B-2, and B-3 (Page 80) to include urban areas, such as the use of habitat supportive plantings, green storm water infrastructure, and creek daylighting.	We added text on biodiversity hotspots in California.	Introduction to Biodiversity and Habitat chapter
City and County of SF	Recommendation B-3 (p.80): We recommend that the State provide guidance for how all projects (development, infrastructure, recreation, adaptation, etc.) can contribute co-benefits to the support and enhancement of biodiversity through thoughtful plant palette selection. We also suggest the State consider including language that directs its projects, as well as those it funds in county and local jurisdictions, commit to the exclusive use of native plants or non-native, non-invasive, climate appropriate, and habitat supportive plants in all landscaping.	We added a 'Next Step' on this topic to the Forest section under the recommendation related to urban forestry (F-5.4).	F-5.4
LCJA, CRPE, CAA, CVAQC	It is important that the Biodiversity and Habitat IAP mention the efforts on Carbon Sequestration on Natural and Working Lands led by the California Department of Food and Agriculture and the California Natural Resources Agency. These efforts are acting to improve climate resiliency through conservation management, private sector partnership, and biodiversity and habitat protection, particularly in the area of forestry. This working group is investigating ways to create economic opportunity for working families out of the crisis of climate change, a keystone of building resilience and safeguarding California.	Carbon sequestration on natural and working lands is discussed in the introduction to the Biodiversity & Habitat section (third paragraph). We will keep this comment in mind for the next update to the IAP.	N/A; comment is related to the Biodiversity & Habitat IAP
CADMUS	Call-out box pg. 77: While the project is interesting, the storage of carbon is notably not addressed in as much detail in this section (see pg. 75). This box seems misplaced and either should be in the introduction section or it should be replaced with an example from the aforementioned wildlife action plans.	This callout box was removed and replaced with a feature on the South Bay Salt Pond restoration project for the final version of the document.	South Bay Salt Pond restoration example

Source	Comment Summary	Response	Edit Location
CADMUS	Recommendation B-3: The strategy should also consider the collateral impact that invasive species have on degraded systems and collectively tackle exotic/invasive species with climate considerations (both positive impacts and negative impacts). This would include acknowledgement and tracking of their spread given predicted temperature and precipitation schemes and establishment and proliferation on degraded habitats (for exotics, there may even by some benefits through use in soil conditioning and retention prior to reintroduction of native plants).	We added a sentence to the existing text on invasive species to drive the point home. We also added a sentence to the B-4 recommendation on the importance of tracking invasive species.	Introduction to recommendation B-3; introduction to B-4.
CADMUS	Recommendations B-3.3 and B-4: Standards and measures for successful restoration efforts related to climate change is a critical need in order to appropriately distribute funding, target interventions, and comparatively weigh the effect of the interventions. However, the indicators and methods for doing so have not been well established, and the outcomes cannot be truly vetted for another 50-100 years. These are aspects of adaptation monitoring and evaluation that can begin to be addressed but will offer formidable challenges to accomplish. A long-term fund to pay for the evaluation should be considered.	We added text to B-3.3 on securing long-term funding to evaluate adaptation success over time.	B-3.3
ARCCA	B-1: We suggest a reference to including application of traditional ecological knowledge where it supports climate adaptation in B-1.3.	We think that TEK and tribal interaction is sufficiently addressed by B-1.3 and B-1.4.	N/A
ARCCA	B-3 We suggest a next step specifically oriented to helping California State Conservancies pursue climate adaptation actions as they play a major role in restoration in various ecoregions throughout the state.	The recommendations in this section are intended to apply to all state agencies as appropriate, including State Conservancies. State Conservancies are also discussed in the Parks, Recreation, and California Culture chapter.	N/A
CADMUS	Recommendation B-1: The integration of climate into existing conservation frameworks is an excellent and worthy step. To effectively conduct that integration, there will likely need to be support, capacity building, and in some cases technical assistance to gather information on climate projections and to translate those projections into actionable tasks within the conservation plans (partially addressed in B-5). Implementation plans or frameworks on	We added a couple of sentences on how capacity will vary amongst partners, and that working together and sharing resources is essential.	Introduction to recommendation B-1 (last paragraph)

Source	Comment Summary	Response	Edit Location
	how to do this will be critical for action on the ground. It should be acknowledged that the capacity is likely to differ significantly among the stakeholders involved.		
CADMUS	Recommendation B-1: The entities that have already integrated climate change (e.g., Dept. of Fish and Wildlife State Wildlife Action Plan) into conservation plans should convene to share information on lessons learned and best practices for integration and to make collective recommendations on appropriate modes to implement their action plans.	Convening entities who are working on integrating climate into conservation plans is a great idea. Bringing together several organizations, not just state agencies, could be very beneficial.	N/A
San Diego Tribal Workshop	Migration of species due to climate change and climate impacts to plant and animal species can affect culturally important species for tribes. For example, acorn harvests in Southern California have been low during the drought and culturally significant grass species (such as June Grass) have died as riparian areas dried up.	Noted. We hope that this is addressed in B-1.4.	N/A
LCJA, CRPE, CAA, CVAQC	Many of the issues in this section overlap with public health and water and air quality and agricultural land conservation and preservation. Due to agency collaboration and stratification within private industry, we suggest clarification regarding the applicability of the strategies in this section to working lands. The Draft should incorporate land use and consider strategies to shift from a pattern of sprawl development to compact infill development to preserve habitat.	Recommendation B-3 is one of the most applicable to both natural and working lands, so we adjusted the recommendation text to reflect that. The monitoring recommendation (B-4) also could apply to both natural and working lands, and we feel that the existing language is not exclusive of either type.	B-3
CADMUS	Recommendation B-2: The idea of considering habitat connectivity is an excellent idea. The strategy should also consider valuation of these corridors and how they may factor into ecosystems services discussions as well as conservation planning noted in other section.	We added mention of ecosystem services and co-benefits to other sectors, in the context of connectivity.	B-2.3
ARCCA	B-1: In addition to the planning efforts listed, we suggest adding the Delta Stewardship Council's Delta Plan and EcoRestore planning processes, the AB-2087 Regional Conservation Investment Strategy program, and the Integrated Water Resources Management Plans with climate change components.	We added several of these examples to the text; we did not add all of them to preserve length/conciseness.	Recommendation B-1 (second paragraph)
ARCCA	B-1: Considering that the State Wildlife Action Plan was recently updated (and it will be another 8 years before the next update), we suggest modifying B-1.1 to include an action related to implementing current natural resources plans with climate adaptation measures.	Agreed; this change was made.	B-1.1

Source	*Comment Summary*	*Response*	*Edit Location*
ARCCA	B-1: In addition to NCCPs, we suggest including Habitat Conservation Plans (HCP's) in the first ongoing action listed.	Agreed; this change was made.	B-1.1
CADMUS	The strategy notes the importance of expanding efforts to observe, measure, and evaluate the climate impacts on species and minimizing those impacts. This effort will be critical to establishing the baseline conditions of species' density and range so that gains can be weighed against investments and the effect of climate change can be tracked through changes in species patterns.	Noted.	N/A
CADMUS	Recommendation B-3.2: Prioritization of areas is an excellent recommendation to address highly vulnerable systems first.	Noted.	N/A
Delta Stewardship Council	The Delta Stewardship Council is committed to the development of a Delta governance strategy for climate adaptation projects; providing policy leadership on resilient infrastructure; creating new funding sources for adaptation and resilience; establishing and providing a resilience technical services team; and expanding of the Delta's network of natural infrastructure.	Noted.	N/A
The Nature Conservancy	In general, the Biodiversity & Habitat Sector Plan provides a good summary of actions taken and underway by the California Department of Fish & Wildlife (DFW). The statement about incorporating climate change into conservation planning is somewhat vague and open to interpretation (pg. 76). For example, in some plans considering climate change just results in text that explains general changes that are expected and how those changes might impact the species or habitat in the plan, but often climate change adaptation or vulnerability data is NOT included in the Plan from the start. Incorporating this data spatially could influence the conservation plan (e.g. avoiding development in areas that are particularly resilient, protecting corridors more likely to be useful for range shifts in addition to current connectivity). The final SCP could be strengthened by making this more specific.	We agree; we added text to the introduction to recommendation B-1 to clarify this.	Introduction to recommendation B-1 (first paragraph)

Source	Comment Summary	Response	Edit Location
The Nature Conservancy	In B.12 under next steps, identifying data and developing guidance on how to use it is key, but instead of a next step, the plan can include general types of data that can be cataloged in the "next step" and explain generally how they can inform planning processes. For example, data types could include: refugia, landscape resilience, connectivity to facilitate range shifts, species range shifts, species range contractions, vulnerability assessments, etc. Including general guidance would be useful, for example, priority areas should include areas that are resilient or provide refugia, and connectivity should be prioritized to facilitate range shifts.	We agree; we split this 'next step' in two to focus separately on identifying best available science and developing guidance for use. Data examples were added to B-1.2.	B-1.2; B-1.3
The Nature Conservancy	In addition to refugia and climate smart corridors (p 76 next steps), the Plan should include landscape resilience. Refugia and resilient areas are both being important areas to support biodiversity in a changing climate especially because they have the potential to function at different scales.	We added mention of resiliency in the narrative under recommendation B-2, and added a next step specific to resiliency at a broader scale.	Introduction to recommendation B-2; B-2.2
The Nature Conservancy	TNC is very supportive of B-4: "continue fine-scale vegetation mapping efforts for CA" because this data serves as a baseline for species distribution models and connectivity modeling and will help improve accuracy and reliability of vulnerability assessments and planning that use vegetation and land cover as a foundation.	Noted; thank you.	N/A
The Nature Conservancy	Climate change-driven loss of biodiversity poses a number of risks to California agriculture, including: lack of pollination, loss of soil biodiversity and capacity for nutrient cycling, and loss of natural biological control leading to potential new pest outbreaks. At the same time, the agriculture sector plays an important role in maintaining biodiversity by providing critical habitat and linking migration corridors, which will become more essential as the climate changes. The Agriculture section in the SCP should explicitly acknowledge this important connection and include diversification practices as way to build resilience.	Noted; this comment is most applicable for the Agriculture chapter.	N/A
The Nature Conservancy	Protecting habitat, migration corridors and sensitive species is essential when citing new power facilities and undertaking mitigation measures. All decisions for citing of new energy facilities should include an analysis of climate change impacts over time. Salmon and other fish should be considered when considering new hydropower facilities.	Noted; this comment is most applicable for the Energy chapter.	N/A

Source	Comment Summary	Response	Edit Location
The Nature Conservancy	Encourage natural habitat riparian buffers along agriculture lands so that agriculture lands better contribute to wildlife movement for climate change adaptation and shade for stream cool water refugia. Agriculture could be important for species moving in response to climate change, however, management of the land plays a large role in how useful the agriculture land will be to species movement. Practices on-farm that improve habitat for pollinators could help make agricultural lands more resilient to climate change.	Noted; this comment is most applicable for the Agriculture chapter.	N/A
SF public workshop	Define climate smart restoration. Make sure natural resource managers know what it is and why it matters. Start with better utilizing vulnerability assessments.	We added a definition to the text.	Introduction to recommendation B-3 (first paragraph)
SF public workshop	Natural infrastructure could be more explicitly prioritized. The amount of acknowledgement/highlighting given to natural infrastructure varies greatly between different sectors but it is supposed to be one of the cross-sector priorities.	We added mention of natural infrastructure related to conservation planning under recommendation B-1.	Introduction to recommendation B-1 (second paragraph)
SF public workshop	Chapters could work together more and be more synergistic. This is particularly true between biodiversity and forest chapters--the biodiversity chapter has a lot of great stuff that could be included in the forest chapter, like the wildlife benefits of forest management and habitat connectivity. Urban forests also are a very cross-sector topic but there's no common goal to prioritize urban forests in all the relevant chapters.	We worked with CAL FIRE and CNRA to better address biodiversity in the Forest chapter.	Edits integrated throughout Forest chapter
SF public workshop	We need a more comprehensive view of stressors. If there are not that many things you can do about a particular stressor (for example, acidification, heat) you can try to identify and reduce other stressors that we have more control over. SWAP has a more comprehensive view of stressors and recommendations for conservation actions.	The 2017 plan does not aim to be a comprehensive vulnerability assessment. The 2017 plan does reference some impacts in paragraph 3 in the introduction to the chapter.	N/A
SF public workshop	Elevate climate acquisition to include climate refugia, etc. Focus on not just what the impacts are, but also can we elevate climate refugia and corridors that are more likely to remain viable over future scenarios. It would be helpful to have consistent programs that the State guides folks to use around climate refugia. DFW has basic climate change refugia map – is that the best way to define climate change refugia? There are some regional datasets and programs that are used, but there needs to be something that can be used statewide. Conserving nature stage – a data tool from TNC – provides a statewide habitat	We added a sentence to the narrative under recommendation B-2 about prioritizing corridors that are likely to be viable under a range of future conditions.	Introduction to recommendation B-2 (second paragraph)

Source	Comment Summary	Response	Edit Location
	map of habitat corridors and most vulnerable areas, which helps prioritization. UC Berkeley is also producing a project for 4th assessment on climate impacts on habitat.		
SF public workshop	Co-benefits and carbon benefits of natural infrastructure should be highlighted throughout the plan in relation to each recommendation.	For the sake of brevity, we did not add discussion on natural infrastructure under every recommendation but did mention it under B-1; natural infrastructure is also discussed in the Transportation, Water, Land Use and Community Development, and Ocean and Coast chapters.	N/A
SF public workshop	It's easier to find metrics to measure climate impacts (e.g. species migration, impacts to lifecycle, phenology); meanwhile, effectiveness of government action is way more difficult to measure; metrics typically don't cover effectiveness but just capture whether or not the government is taking any action.	Noted; the scope of the metrics and capacity to measure is being covered by additional introductory comments in the appendix. We agree that some of the metrics are focused more on government action than effectiveness and are open to suggestions for how to improve.	N/A
SF public workshop	• How can CDFW pull in biodiversity, ecosystems services, water, climate, and other co-benefits into the conservation emphasis map it is working on? • How do we get and distribute the right data? Is there a place to find large, relatively intact landscapes that provide core benefits, where are those essential priority areas that we can achieve these goals at the state level? How do we overlay carbon, wildlife, water security, bio-risk, etc. layers to come up with prioritization map? How do you keep that map updated? There are many regional efforts at the data level, such as Healthy Lands, Healthy Economies in the Sonoma Open Space District. TNC worked with Sonoma County to put a climate lens on conservation and development and measure the climate and carbon impacts of land-use decisions. The tool has data layers that capture water quality, habitat, groundwater recharge, and recreation, so counties can see where they're going to get the biggest bang for their buck and where the	These comments are based on a great discussion that took place at the SF outreach meeting. These topics are important, but outside the scope of addressing in this update.	N/A

Source	Comment Summary	Response	Edit Location
	hotspots for conservation are, including carbon sequestration and other benefits. It is available online and informs land acquisition projects as well as the county's Climate Action Plan. The state could learn from these different regional efforts.		
USDA Forest Service	Comment on B-4: It would be great to see strong coordination with monitoring with existing FS monitoring and university monitoring to build upon/supplement existing datasets where it makes sense to use similar protocols/methods.	Coordination around monitoring will certainly be important; we added sentences on this topic to the end of the recommendation description.	Introduction to recommendation B-4 (fourth paragraph)
Coastal Conservancy	Add the following actions to B-1: • The multi-agency Southern California Wetland Recovery Project that integrates climate change considerations into quantified regional objectives is completing and adopting an updated regional strategy. • The Coastal Conservancy is conducting a statewide coastal habitat climate vulnerability assessment with The Nature Conservancy to identify priorities for future conservation. • The San Francisco Bay Ecosystem Habitat Goals Report's recommendations serve as a guide for conserving important habitat, and state agencies and other partners are continuing to implement its vision.	We added these ongoing actions to B-1.	B-1 ongoing actions
Coastal Conservancy	On pg. 75 (B-1) consider revising to: "Candidates for this type of work include planning efforts such as Natural Community Conservation Plans (NCCPs), Habitat Conservation Plans, Joint-Venture Implementation Plans, Endangered Species Recovery Plans, the Southern California Wetlands Recovery Project, regional advance mitigation planning, and other joint conservation plans and long-term planning frameworks developed through partnerships in which state agencies participate, such as the 2017 Delta Conservation Framework and the San Francisco Bay Ecosystem Habitat Goals Project. Many of these conservation planning exercises are aimed at preserving biodiversity, protecting federally or state listed species, aiding in species recovery, promoting habitat connectivity, and finding multi-benefit conservation solutions through integration with agriculture and working landscapes. Incorporating climate change will only strengthen each plan's ability to achieve these goals in the long-term."	Thank you, these are great suggestions, and there are certainly many plans that could be added to the list. For the sake of brevity, we narrowed the list to types of plans versus individual or regional/localized examples.	Introduction to recommendation B-1 (second paragraph)

Forests Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
Pacific Forest Trust	Rewrite the forest chapter with input from the Department of Fish and Wildlife and others to fully integrate biodiversity into the forest chapter. The goals for biodiversity will not be achieved without forests. Increasing habitat connectivity, protecting and restoring critical large, relatively intact forest landscapes, and restring a full range of ecosystem processes and functions will all be essential in helping wildlife adapt to climate change.	Input from the Department of Fish and Wildlife informed a new recommendation that was added to elevate biodiversity considerations in the Forest chapter, F-4. Additionally, elements were added to the introduction, F-1, and F-2 to emphasize biodiversity considerations in forest management, reforestation, and protection efforts.	Introduction to Forests chapter; F-1; F-2, F-4
Pacific Forest Trust	The forest chapter should focus on restoring a full range of ecosystem processes and functions for climate change adaptation beyond fuels reductions, and should reflect the synergies between goals for forests, biodiversity, and water. Describe why degraded and fragmented forests are detrimental to ecosystems services and function, and the need for restoring ecological processes and functions, including more natural fire regimes. Healthy, resilient forests provide wildlife habit and water filtration and storage that hep California adapt to climate change. However, the currently degraded state of California's forests cannot fully provide these benefits that could help adapt to extreme floods or droughts that are becoming more prevalent with climate change. Fragmented and degraded forests make it challenging for species migrating in response to climate change.	This is emphasized in the chapter introduction (paragraph 2 & 3) and the last sentence introducing F-1. F-4 also emphasizes the synergies between forests and biodiversity, and F-3 emphasizes the synergies between water and forests.	Introduction to Forests chapter; F-1; F-3; F-4
Pacific Forest Trust	Be clearer about the current degraded state of forests and the end-goal of restoration: bringing back missing elements (such as older and larger trees) and ecological functions/processes to the landscape that support biodiversity. Make sure that next steps provide guidance for achieving these ecosystem restoration goals. Add necessary introductory text/ next steps on how terrestrial plant and animal species rely on forests for survival and the restoration work that can restore and improve habitat.	Paragraph 2 of the chapter introduction and the new recommendation on biodiversity (F-4) address the current degraded state of forests and goals of restoration.	Introduction to Forests chapter; F-4

Source	Comment Summary	Response	Edit Location
Pacific Forest Trust	The Forests chapter should acknowledge how the past century of fire suppression has created a "fire deficit," instead of focusing only on reducing fire risk. Approximately four and a half million acres burned annually in California prior to European settlement. These historic forests burned more frequently but stored at least 25% more carbon than modern fire-suppressed forests because of the presence of larger, older trees. Restoring low and mixed severity fire will increase the resilience of California's forests to disturbance. More regular stand-maintaining fires also help reduce the smoke impacts from high-severity fires and in the case of prescribed fires, allow for more control over the timing and severity of burns. Restoring fire and retaining larger, older trees is critical to ecological health and meeting greenhouse gas emission reductions.	The second paragraph of the introduction, 1st paragraph introducing F-1, and recommendation F-4 all discuss fire suppression. F-1 emphasizes the importance of controlled burns for improving forest health.	Introduction to Forests chapter; F-1; F-4
Pacific Forest Trust	There is a need to prioritize the proactive restoration and conservation of large, relatively intact forest landscapes and bring back missing elements of the landscape, including larger older trees, wet and dry meadows, and an appropriate component of early seral conditions important to wildlife. Add more information on long-term conservation easements paired with commitments for restoration as a tool for ecosystem recovery over a long period of time and a way to prevent conversion of forests. Add goals to strategically target conservation to large, relatively intact forest landscapes that can also help increase habitat connectivity.	Conserving large, relatively intact forests is mentioned in F-2 and F-4. Recommendation F-3 discusses the importance of meadows.	F-2; F-4
Pacific Forest Trust	There is a need to prioritize conservation and restoration of those areas of the state that will achieve multiple benefits for carbon, biodiversity, and water – such as the watersheds that feed the Shasta and Oroville reservoirs.	Watershed restoration is elevated to receive its own recommendation because of the multiple benefits they provide. Some revisions were made to F-3 to better emphasize multiple benefits.	F-3
William Stewart	The important role that managed forests have in reducing consumption of these GHG intensive building products could be better articulated in the plan. The plan should	The importance of wood products is highlighted in F-6. A recommendation to encourage the use of wood products in building is in F-6.3. Since this plan tries to	F-6

Source	Comment Summary	Response	Edit Location
	highlight the current ability of California's forests, especially those under private management, to generate considerable climate benefits through management and through wood products as a replacement for cement and steel, which emit major emissions of greenhouse gases to produce. This is well documented in the California's Forest Resources (2016) report as well as the California Forest Products Industry and Timber Harvest (2015) report. State Demonstration Forests could be interesting incubators for new approaches to demonstrate the important climate mitigation potential of California's forests.	focus on climate adaptation, there is less attention to climate mitigation benefits of strategies in the plan compared to alternatives. The California Forest Carbon Plan is a more comprehensive compilation of adaptation and mitigation in forests, while Safeguarding is intended to provide a more succinct overview of adaptation strategies only.	
William Stewart	While it is magnanimous for the state in first step (F1.1) to highlight the need for the federal forests to take greater responsibility to come closer to their potential to generate climate benefits and provide other public benefits, achieving better results may require California to exercise the "Good Neighbor Authority" to take greater control in terms of designing AND implementing innovative projects. Other states such as Wisconsin, Michigan, Oregon, and Idaho have shown what is possible with the "Good Neighbor Authority." Setting clear goals in the plan for new and innovative projects that will be judged on outcomes, rather than simply on collaborations, could spur action.	F-1.2 now mentions Good Neighbor Authority explicitly.	F-1.2
William Stewart	The vital role of providing California consumers with renewable wood products from our forests and other sustainably managed forests in North America is buried in a laundry list of 52 items in the "forests" section of the plan. The plan should clearly articulate that forests AND forest products (often referred to just as "forest biomass" in the plan) need to be considered as a link system.	Noted; hopefully, there is less of a laundry list now. The "next steps" were cut down to be more succinct, and the term "wood products" is used several times in F-6.	F-6

Source	Comment Summary	Response	Edit Location
AARCA	We disagree with the statement on page 84 that "There is no panacea for restoring resiliency in forested landscapes." There is strong consensus from forest managers and scientists on the critical need for ecologically sound restoration from fuel reduction treatments of mechanical thinning and prescribed burning – to return our forested landscapes to a condition that is stable and resilient to disturbance. Restoration objectives for mixed conifer forests ecosystems of the California Sierra Nevada are provided in greater detail in the following publications by the U.S. Department of Agriculture, Forest Service: • Science Synthesis to Support Socioecological Resilience in the Sierra Nevada and Southern Cascade Range • Managing Sierra Nevada Forests • An Ecosystem Managed Strategy for Sierra Mixed-Conifer Forests	A panacea is a single solution or cure-all for a problem. As stated in the second part of this comment, there is really no cure-all for degraded forests, given the variety of forest types and ownerships across the state, but rather a variety of management techniques that can enhance forest health such as fuel reduction, mechanical thinning, prescribed burns, and other restoration activities. No single management strategy will restore resilience in all forests in all parts of the state; the strategies for the California Sierra Nevada are not applicable for all regions. Additionally, healthy forests are interdependent on strategies that improve the systems that support them: a workforce to complete forest management activities, markets to make forest restoration activities economically sustainable enough to complete, protections that keep forests as forest and ensure that areas of tree mortality return as forests, and research and monitoring to better understand forest issues and track ongoing forest management.	N/A
ARCCA	F-1: We recommend clearly acknowledging that the economic cost to perform the critically fuel reduction treatments is frequently higher than current tangible, fungible revenues. We recommend promoting and describing specific funding sources that can assist with conducting this important work, including properly monetizing the benefits of water quantity and quality, air quality, wildlife habitat, and recreation provided by healthy forests.	The economic cost of forest management has been elevated in F-6. Finding new financing for to restore forested watersheds is highlighted in F-3.	F-6
ARCCA	F-6: Specific actions are needed to promote and accelerate forest restoration after overly intense wildfires, including recognition that the prior forest may need to evolve to new species with restoration to build resilience against climate change impacts.	This is described in the introduction to F-2 and its next steps, including F-2.1 and F-2.4.	Introduction to F-2; F-2.1; F-2.4

Source	Comment Summary	Response	Edit Location
ARCCA	F-3: We recommend considering whether urban gardening, in addition to urban forests, would be beneficial. There are clear co-benefits for encouraging urban gardening and community gardens: to address food insecurity and lack of access to fresh produce, to develop more self-reliant and resilient local food networks, and to increase social cohesion.	Although recommendation F-5 is mostly focused on urban forests, the last sentence of the introduction to F-5, "Trees in gardens, orchards, farms, and schools provide food for communities," does highlight this important connection. A sentence in PC-3 within the Parks, Recreation, and California Culture chapter does as well: "Community gardening and urban agriculture can increase access to healthy food while teaching individuals about food systems." More next steps on food security were also added to the Public Health chapter.	Info added to Parks and Public Health chapters: P-3; PC-3
San Diego Tribal Workshop	Fire safety is a big issue for Southern California tribes. Make sure that WUI funds for fuel breaks and fire safety are available to tribes and that tribes know about this funding.	This has been emphasized in F-7.	F-7
Pacific Forest Trust	Use a definition of restoration similar to the Biodiversity chapter: "activities to re-establish critical ecosystem functions" (page 80). Restoration should involve activities that encourage diversity at multiple scales, such as: retaining snags and other dead wood, implementing uneven-age management, reforesting with diverse native species at appropriate stocking levels, and fostering landscape-scale heterogeneity of habitats.	The definition of restoration as "restoring critical ecosystem functions" is used in the Introduction to the Forest chapter and in F-1 (final paragraph).	Introduction to Forests chapter; F-1
Pacific Forest Trust	Revise "10-year average of acres burned" metric (page 163) to: the deviation of current average fire frequency and severity from historic fire regimes (this should be displayed spatially as fire return intervals vary across the state).	This change has been made.	Metrics Appendix
Pacific Forest Trust	Revise "Acres of forested land treated to reduce fire risk" metric (page 170) to: annual efforts to proactively restore fire to the landscape through prescribed burns or managed natural ignitions.	A similar change has been made.	Metrics Appendix
Pacific Forest Trust	Add metric to reflect the need to restore forest processes for climate adaptation: Acres of forestland (at least 10% of canopy cover) where there is a legally binding commitment to permanently restore and maintain ecological processes	This change has not been made due to difficulty of tracking this but will be considered as metrics are revised.	N/A

Source	Comment Summary	Response	Edit Location
	and functions; these lands should be managed for wildlife, water, older more resilient trees, and other climate change adaptation goals.		
Pacific Forest Trust	Revise metric on page 169 "Acres of terrestrial and aquatic habitat restored through state agency-administered restoration grant programs and restoration on state lands" to include state agency-administered restoration grant programs and restoration on **all** lands.	This change has been made.	Metrics Appendix
Pacific Forest Trust	Combine metrics on "Reduction of rate consumed for development" (page 166), "Acres of farmland conserved through state agricultural conservation easement programs" (page 169) and "Acres of private forests in easements" (page 170) into: Acres of proactive protection and enhancement of natural and working lands through conservation easements or fee title. Detail should be included about both land type and the percentage of these easements that require improved management for climate adaptation/ mitigation.	The metrics were kept separate for ease of tracking but a sentence was added to each about percentage of these easements that require improved management for climate adaptation/ mitigation.	Metrics Appendix
California Forestry Association	Page 88 states that over 270,000 acres of planned reforestation treatments have not been implemented. However, the USFS, California Region, best estimate of Reforestation Needs has been updated and now totals 583,818 acres (see attached table from Regional Silviculturist, Joe Sherlock).	The number was updated to as many as 613,781 acres on National Forests per the USDA Forest Service website.	Introduction to F-2
California Forestry Association	Best management practices regarding silvicultural systems encompass more than future climate conditions. It should be noted that the Forest Practice Rules and the California Environmental Quality Act require optimum silvicultural practices that account for all environmental conditions. If what is intended is to encourage silvicultural practices that create conditions resilient to a wide range of future conditions, replace "Develop best management practices consisting of silvicultural systems that are likely to create optimal forest structure and composition over a wide range of as-yet unknown future climate situations" with "Implement silvicultural systems that are likely to create	An "ongoing action" was added to F-1 to discuss forest practice rules: "Ongoing enforcement and monitoring of AB 1504 (Skinner) ensures that Board of Forestry regulations for logging on privately-owned lands meet the State's greenhouse gas reduction goals. AB 1504 requires that BOF regulations ensure maximum sustained production of timber while providing benefits such as carbon sequestration, recreation, water resources, habitat, and economic sustainability. The first AB 1504 Inventory Report was released in fall 2017, and the second inventory is expected by early 2018."	F-1

Source	Comment Summary	Response	Edit Location
	optimal forest resiliency over a wide range of possible future climate situations," consistent with the California Forest Practice Rules on page 99.		
ARCCA	F-1: We suggest including a specific mention of the current tree mortality crisis and the forest transitions in process with climate change. We hope that these issues can also be addressed in subsequent next steps.	The current tree mortality is mentioned in the introduction to the chapter.	N/A
ARCCA	Edit intro to Recommendation F-4 to read: Material generated by commercial forestry as well as forest health, restoration, and hazard treatments should be utilized productively or disposed of in a manner that minimizes net greenhouse gas and particulate matter emissions. There is a significant amount of woody biomass waste that comes out of California's overstocked forests, and in many regions landowners struggle to find financially sustainable waste disposal methods. Transportation costs remain high and insufficient workforce capacity prevents proper removal of small-diameter trees, dead trees, and biomass. The lack of infrastructure to convert the biomass and non-merchantable trees for higher value products, such as electricity, durable wood products, compost and other soil amendments, results in this wood being left in the forest, where it can increase the risk of wildfire, or in many cases, is open-pile burned. Both of these activities undermine the objectives of greenhouse gas emission reduction goals, and can have negative implications for human health.	The beginning of F-4 has similar language now.	Introduction to F-4
William Stewart	Clarify that the "LA Moran Reforestation Center" is named in honor of a previous director of the California Department of Forestry and Fire Protection rather than the largest city in California on page 89 of the draft.	Thank you and apologies for the oversight. This change has been made.	F-2 (first bullet of ongoing actions)

Source	Comment Summary	Response	Edit Location
Sierra Business Council	This comment supports the statement that investments must be made to improve the social and economic resilience of forested communities, and their capacity to carry out forest management activities, including creating jobs to manage forests, harvest biomass, and manufacture wood products, and the acknowledgement of the co-benefits of improving forest health and resilience, such as greenhouse gas mitigation, enhanced economic, cultural, and recreational opportunities for communities across the state. The comment strongly supports Recommendation F-1, F-2, F-4, F-5, F-6, and F-7.	Noted, thank you for this comment.	N/A
California Association of Sanitation Agencies (CASA)	CASA supports the effort to improve forest management practices and the capacity of the forest sector to withstand and recover from climate impacts in order to protect the value and continued productivity of forest resources. Protecting forest ecosystems provides many co-benefits, including improved water quality and supply, wildlife habitat, air quality protection, recreation values and more. Benefits should extend to POTWs since the use of biosolids to reclaim fire-ravaged land and to reduce the potential of future fires is a proven but underused strategy (adopted in Santa Ana Regional Water Quality Control Board Emergency Resolution following the Freeway Complex Fires of 2008). To reduce wildfire risk, the State Fire Plan should consider use of biosolids from POTWs as a means for reclaiming fire-ravaged land (carbon sequestration) and fire prevention.	This may be too specific for the scope of the plan, but biochar and other soil amendments are discussed in F-6.	N/A
ARCCA	F-4: We recommend acknowledging that electricity production from forest waste is a viable option with a greater focus on the waste disposal problems associated with forest restoration and fire prevention.	The focus of F-6 is more on promoting a healthy market environment for wood products instead of prioritizing any particular end-use.	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
The Nature Conservancy	The roles of trees, especially in urban forests, should be highlighted and cross-sector collaboration with the forestry and other sector should be explored (see below). Trees remove pollutants from the air and keep our cities cooler, and play an important role in lowering demand for energy consumption and improving the quality of our neighborhoods.	The benefits of urban forests are discussed in F-5. Recommendation PC-3 in the new chapter on Parks, Recreation, and California Culture also discusses the role of trees in urban areas. The cross-sector icons show how the Public Health, Forests, Water, and Parks, Recreation, and CA Culture chapters will have to work together to maximize the benefits of urban forests to communities.	N/A
The Nature Conservancy	Increased frequency and severity of high intensity wildfire poses a great risk to the energy sector. Actions taken in forests like forest thinning and biomass harvest can affect the reliability and transmission of power and demonstrating the need for coordinated planning between the forestry and energy sectors.	Although it is not explicitly listed out, "F-7.8. Use science-based approaches to understand how climate change will affect the risks wildland fire hazards pose to lives, homes, and critical infrastructure" shows that ongoing research will be needed to fully understand fire risk to all critical infrastructure, including energy infrastructure. Additionally, a research project in California's Fourth Climate Change Assessment will analyze this issue.	N/A
The Nature Conservancy	Given the uncertainties of quantifying greenhouse gas (GHG) reductions associated with forest management, thinning, biomass and defining baseline assumptions for catastrophic fire at a project scale, the Conservancy recommends that the State undertake demonstration efforts to approach the issue of fire risk reduction and GHG reductions differently and that the Final SCP include this recommendation. Pilot projects should be recommended in the Sierra and Klamath region forests that should be at a jurisdictional (or regional scale) and should incorporate the broad suite of actions that impact GHG emissions, including (but not limited to) wildfire and actions to reduce wildfire risk.	This suggestion was adopted but shortened to: "F8.7. Use CAL FIRE's Demonstration State Forests to better understand how management activities such as thinning and prescribed burns impact fire risks, carbon storage, and various co-benefits in forests."	F-8.7

Source	Comment Summary	Response	Edit Location
Center for Biological Diversity	The Forest Chapter does not identify the climate-change-related problems it is trying to address, and makes management recommendations that are not grounded in science. For example, in the introduction, it does not provide citations for the statement that climate change is already affecting "tree survival and growth, forest composition, the range and distribution of tree species, and forest health and productivity;" it also does not clarify which of these issues it is trying to address. The introduction jumps to the logically disconnected conclusion that increasing biomass harvesting and the production of wood products will increase forest resilience, without providing scientific support for the argument that taking more carbon out of the forest will improve forest health. The introduction of the chapter proposes aligning with recommendations in the forest Carbon Plan, but the Forest Carbon Plan has not been adopted by the state, misrepresents the science and scientific uncertainty on core issues, and recommends management actions that are likely to undermine forest health.	Next steps for mitigating the problems highlighted in the introduction are discussed in the subsequent recommendations: degradation due to fire suppression (F-1), simplified forest structure (F-4), and fragmentation (F-2). The sentences on tree survival and growth and revitalizing wood products markets were removed from the introduction.	Introduction to Forests chapter
Center for Biological Diversity	Recommendation F-1 ("enhance forest health through fuel reduction, thinning, and managed fire treatments") justifies large-scale increases in logging/ thinning based on scientifically unfounded premises. Although this chapter recognizes how historical fire suppression and logging have harmed California's forests, it erroneously asserts that wildfire is "increasingly severe" when it returns to fire-suppressed forests, compared to historic levels, as a justification for continued logging and suppression. Instead of proposing to move away from the continued policy of logging and fire suppression in forests, the chapter advocates for continuing logging, including large increases in the "pace and scale" of thinning and other fuels reductions (F-1.1, F-1.2). Recommendation F-1 should be revised to support management that (1) moves away from fire suppression and large-scale thinning policies and	An overarching goal of F-1 is to "restore fire as a core ecological process," and its next steps (F-1.1, F-1.2, F-1.3, F-1.5, F-1.6, F-1.9) aim to help reverse the policy of fire suppression where appropriate through prescribed and managed fire. The chapter tries to avoid prescribing a silver bullet solution to restoring degraded forest health and increasing resilience to disturbances including wildfire, drought, pests, and disease, recognizing that in reality there are limitations to where both mechanical treatment and prescribed and managed fire can be applied. Treatment types will be sit-specific and dependent on a range of factors. Vegetation management treatments including restoration of ecological fire and thinning have been effective in making stands more resilient to bark beetle attack, (Fettig & Hilszczański 2015, Fettig et al. 2007), and the	F-1

Source	Comment Summary	Response	Edit Location
	toward restoring mixed-severity fire regimes and other natural disturbance processes and (2) keeps more biomass in the forest by reducing logging levels and lengthening harvest rotations on private lands and national forests. The proposed increases in thinning/logging are likely to reduce forest resilience; numerous studies caution against forest management treatments aimed at reducing density to increase forest resilience. Keeling et al. (2006) emphasized the importance of restoring ecological processes, especially wildfire, rather than management that tries to create specific stand conditions.	USDA Forest Service Risk Assessment has forecasted a that California could lose 12 percent of the treed area in the state to insect and disease from 2013-2027 (Krist Jr. et al., 2014). We recognize that mechanical treatment is not appropriate everywhere, and that thinning can have positive and negative impacts depending on the approach, forest type, and forest structure (Graham et al. 2009). A number of studies have demonstrated that fuels reduction treatment including prescribed fire and thinning can reduce the severity of wildfire, including Pollet & Omi 2002; Graham et al. 2009; Agee and Skinner 2005; and Finney et al. 2007; Stephens and Moghaddas, 2005; Dailey, et al., 2008.	
Center for Biological Diversity	A large body of scientific research shows that (1) fire-suppressed forests are not burning more severely; (2) there is no increasing trend in fire severity in California's forests: see Doerr and Santin (2016) and ten other studies that found no significant trends in fire severity in California's forests in terms of proportion, area, and/or patch size: Schwind 2008, Collins et al. 2009, Hanson et al 2009, Dillon et al. 2011, Miller et al. 2012, Hanson and Odion 2014, Odion et al. 2014, Baker 2015, and Keyser and Westerling 2017; and (3) there is no increasing trend in high-severity patch size.	Studies have documented that areas where prescribed fire is reintroduced burn less severely than forests where fire has been excluded (Harris & Taylor 2017; Parks et al. 2013). Biomass buildup and species change as a result of fire suppression and other factors has led to an increase in fire severity compared to past decades in some forests (Mallek, Safford, & Viers, 2013). Citations were added back into the final Plan, which now cites McKelvey, Kevin et al paper, "An overview of fire in the Sierra Nevada" for its statement on trends in high-severity patch size. Other studies have documented an increase in the extent of high severity fire and mean and maximum fire size in recent decades (Miller et al. 2009).	F-1
Center for Biological Diversity	There is no clear trend in area burned in California.	The Forest Chapter does not discuss a trend in overall area burned in California.	F-1
Center for Biological Diversity	The projected impacts of climate change on wildfire activity in California's forests are uncertain - F-1 says that most forest areas will see a large increase in burned area by the end of the century, citing one source. Scientific studies project that future fire severity in California's forests is	The text states that most forested areas in Northern California are predicted to experience a growth in burned area over 1975 reference levels, citing a California-specific study (Westerling, 2011). The	F-1

Source	Comment Summary	Response	Edit Location
	likely to stay the same or decrease, and studies show no consensus on how climate change is likely to affect future fire probability or area burned.	following sentence recognizes that historically, large areas of forests burned annually.	
Center for Biological Diversity	California's forests are experiencing much less fire than there was historically, and the Forest chapter does not disclose this.	The chapter discusses how California's forests are experiencing much less fire than there was historically in the chapter introduction and in F-1, and again in F-4.	F-1
Center for Biological Diversity	Recommendation F-2 ("increase protection of forested lands, reduce conversion to non-forest uses, and facilitate reforestation opportunities…) relies on a scientifically unsupported assertion that forests need reforestation treatments after wildfire. Most published studies have found substantial, heterogeneous natural conifer regeneration following high-severity fire in mixed-conifer and yellow pine forests; in the driest forests, post-fire conifer regeneration in high-severity patches may be very sparse or absent for the first decade or so post-fire, but then increases substantially (Haire and McGarigal 2010). Reforestation treatments after wildfire or bark beetle outbreaks are typically associated with salvage logging, which has been shown to hinder regeneration, and shrub eradication through the spraying of herbicide; as a result, reforestation treatments often result in plantations that are unnatural and significantly different from naturally revegetated areas. As an alternative, natural regeneration after disturbances may best allow for the survival of genotypes that are better adapted to changing regional climate conditions.	Recent studies in California show low rates of tree regeneration after recent severe fires (Welch, Safford, & Young 2016; Crotteau et al. 2014). Recent studies in other parts of the Western US affirm these findings (Stevens-Rumann et al., 2018). Natural regeneration may be sufficient in some areas, and it would not be neither efficient nor feasible to conduct reforestation treatments on all wildfire-impacted areas. Still, in areas where natural regeneration is deficient, reforestation can complement natural regeneration to aid the natural process and to prevent potential type conversion of forest ecosystems under changing climate conditions and increasingly severe fires. We think that by encouraging planting a diverse variety of native tree species and genotypes, informed by expected future changes in climate conditions and species shifts, the chapter encourages facilitating heterogeneous landscapes, not plantations that are unnatural and significantly different from naturally vegetated areas. This is also flagged as a research area to continue to study in F-8.	F-2; F-8
Center for Biological Diversity	Recommendation F-5 ("implement sustainable forest management and working forests for the overall health and protection of watersheds") is based on scientifically unsupported assertions; a 2008 consensus panel report on forest hydrology by the National Research Council concluded that it is "impractical to manage forests for increased water" because timber harvest does not significantly improve water yields and can damage forest aquatic ecosystems. The rationale for F-5 employs a	Recommendation F-3 focuses on improving forest watershed health to help regulate the timing of flows and to improve water quality, not "managing forests for increased water." An excerpt from the Forest Management Chapter of the California Water Plan 2009 Update addresses the second part of this comment: "Fuel reduction projects can have adverse effects on water quality (for example, McClurkin, et al., 1987; Wondzell, 2001; Grace, et al., 2006), but these	F-3

Source	Comment Summary	Response	Edit Location
	problematic double standard of discussing wildfire only in terms of purported harms to watersheds.	effects are generally minor and temporary, and are far exceeded by the adverse effects of catastrophic wildfires (Benavides-Solorio and McDonald, 2001; USFS, 2005; Madrid, et al., 2006; Hatchett, et al., 2006; Cram, et al., 2007; Robichaud, et al., 2007; Gokbulak, et al., 2008). The adverse impacts of wildfire are generally much greater per unit of affected area than the impacts of fuel reduction projects, and also affect much larger areas than those included in fuel reduction treatments."	
Center for Biological Diversity	Recommendation F-6 ("foster fire-adapted communities through local planning and fire preparedness") should focus on reducing ignitability of structures and protecting defensible space immediately around homes; scientific studies indicate the only effective way to protect structures from fire is to reduce the ignitability of the structure itself and the immediate surroundings within about 100 feet from each home through thinning adjacent to the defensible space zone.	Thank you for your comment. We think that your comments and the recommendations in F-7.3 and F-7.6 are not mutually exclusive. Reducing the ignitability of structures and protecting defensible space around home will be discussed in more detail in the update to the Strategic Fire Plan for California (F-7.1), and in county and regional fire readiness plans (F-7.3). Long-term community action and planning, land use decisions, and public education and engagement will also play a role in fire-adapted communities (National Fire Protection Association 2009; Stein et al. 2013), which is why the recommendation does not focus only on ignitability of structures and protecting defensible space immediately around homes.	F-7
Auburn Public Workshop	How does the plan address forest related emissions (black carbon)? This commenter is disappointed that forest related black carbon wasn't identified. Do regions have the opportunity to address those forest related issues later in the regional (research?) process?	The emission monitoring tools described in F-8 will investigate this further. Additionally, the Forest Carbon Plan provides a more comprehensive overview of adaptation and mitigation. The Forest Carbon Plan will be implemented on a regional scale so may provide this opportunity.	F-8
Auburn Public Workshop	Is there any opportunity to include the relationship between forest management and enhancing the watershed (restoration) how it feeds into water infrastructure?	This was addressed in F-3, "Manage forests to support statewide water infrastructure and to protect forested source watersheds."	N/A
Auburn Public Workshop	F-1 is missing explicit call-out of prescribed fire. This is the most important element to enhance forest health.	Next steps F-1.1, F-1.2, F-1.3, F-1.5, F-1.6, and F-1.9 all call out prescribed fire, as well as the introduction to F-1. The main goal of F-1 is to "restore fire as a core ecological process."	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
Auburn Public Workshop	Move urban forestry F-3 down because it is more a human health and wellness element rather than related to carbon.	Urban forests are now listed 5th. In addition to their human health and wellness benefits, there are many environmental benefits to urban forests, such as carbon storage, water and air filtration, and support to native plants and animals.	N/A
Auburn Public Workshop	Swap F-4 (economic development) with F-2 (forest protection) since it is an adaptation plan.	The order of the recommendations does not imply hierarchy; the success of one recommendation is interdependent on the success of the others.	N/A
Auburn Public Workshop	F-5 is very similar to F-1 and somewhat redundant.	Hopefully, F-1 focuses on forest health broadly while F-5 is more focused on forested watersheds. We tried to make this distinction clearer in the final version of the Plan.	Changes throughout F-1; F-5
Auburn Public Workshop	It takes 10 years for biomass utilization to make a dent on fuels reduction. The plan should talk about how to increase biomass utilization capacity.	Increasing biomass utilization capacity is talked about in F-6.	N/A
Auburn Public Workshop	This should be used as an opportunity to call out governor's tree mortality emergency proclamation.	The current mortality is mentioned in the introduction, and as an "ongoing action" in F-1. This chapter tries to create a plan for preventing such mortalities from becoming so destructive in the future, instead of going into too much detail about current conditions.	N/A
Auburn Public Workshop	Include wildfire emission in the states carbon reduction goals.	This is a topic of discussion for other state documents that focus on climate mitigation as opposed to climate adaptation.	N/A
Auburn Public Workshop	The plan should discuss how imported wood products could be replaced with California wood products.	A sentence in F-6 discusses this: "California imports over 75 percent of its wood for consumption despite being the third largest producer of timber in the nation, providing a significant opportunity to increase in-state utilization of California timber products. "	N/A
Auburn Public Workshop	Is there any baseline that has been established for the amount of carbon targeted for increasing sequestration? This is discussed in the Forest Carbon Plan, and should also be discussed in Safeguarding. It should also detail how larger trees have more carbon storing capacity than small trees.	This Plan does mention that larger trees store more carbon. It isn't as extensive about carbon sequestration because the Plan is intended to focus on adapting to climate change instead of mitigation. Both adaptation and mitigation are addressed in the Forest Carbon Plan.	N/A
Auburn Public Workshop	The goals in this chapter should be more ambitious.	We aimed to strike a balance between being ambitious and realistic.	N/A

Source	Comment Summary	Response	Edit Location
Auburn Public Workshop	The plan should better integrate state and federal agencies and how to improve forest health in federal forests.	Good Neighbor Authority and working with federal partners is mentioned in F-1. F-2 discusses working with the USDA Forest Service to increase reforestation efforts. Since this is an adaptation plan for what the State government will do to adapt to climate change, it cannot dictate actions for federal land management agencies per se, but can recommend that the State increase its efforts to work with the federal government on large-scale and meaningful projects.	F-1
Auburn Public Workshop	Energy and water issues need to think about forest. These concepts need to be emphasized across sections.	We better integrated these chapters through emphasis on water in the forests chapter, forests in the water chapter, forests in the energy chapter, and energy/biomass markets in the forest chapter.	W-10.6, E-3.1d
Auburn Public Workshop	There is controversy over the definition of "sustainable forestry practices;" there is not a consistent definition in different agencies or across plans. A solid definition should be established that is consistent with the Forest Carbon Plan and other plans.	The phrase "sustainable forestry practices" is not used in this plan.	N/A
Auburn Public Workshop	The reforestation backlog should be called out.	It is called out in F-2.	N/A
Auburn Public Workshop	The plan should identify CEQA mitigation funding problems. Additionally, it should tie into urban encroachment into forested areas.	While the plan discusses preventing further development in the WUI and increasing forest protection, it does not go into the detail of CEQA mitigation funding as it is intended to be broader.	N/A
Auburn Public Workshop	Rural investments are underfunded under GGRF; could GGRF be tied into the plan?	GGRF is implicitly tied to the plan, as there are currently GGRF-funded grants such as CAL FIRE Forest Health Grants that can be used towards forest restoration. However, it is outside of the jurisdiction of the Plan to dictate how funding sources are used in the future.	N/A
Auburn Public Workshop	F-5 will provide revenue that you can use for reforestation. Use sustainable forest management revenue for restoration and reforestation.	This systems approach of forest management is reflected in F-6.	N/A
Auburn Public Workshop	The plan should discuss supporting collaborative groups for forest biomass.	Watershed-level collaboratives are discussed in F-3, and supporting new partnerships at the ecosystem-level is discussed in F-1.3.	N/A

FORESTS

Source	*Comment Summary*	*Response*	*Edit Location*
Auburn Public Workshop	Other chapters in the plan don't talk about forestry and we don't talk about topics such as oceans. Put some importance on the forests in other regions and other sectors.	Mention of forests was added in the Water and Biodiversity chapters. The Forests chapter talks about water and biodiversity.	Introduction to Biodiversity chapter; E-3.1, W-10.6
SF Public Workshop	Chapters could work together more and be more synergistic. This is particularly true between biodiversity and forest chapters; the biodiversity chapter has a lot of great stuff that could be included in the forest chapter, like the wildlife benefits of forest management and habitat connectivity. Urban forests are also a very cross-sector topic but there is no common goal to prioritize urban forests in all the relevant chapters.	A new recommendation that was added to elevate biodiversity considerations, F-4. Additionally, elements were added to the introduction, F-1, and F-2 to emphasize biodiversity considerations in forest management, reforestation, and protection efforts. The new cross-sector icons should better highlight where chapters relate to each other.	F-4; F-1; F-2; Introduction to Forest chapter; Cross-sector icons
Merced Public Workshop	Home insurance costs have skyrocketed due to fire risk and tree mortality. This is part of fostering fire-adapted communities.	A sentence in F-7 calls out this problem: "Increasing wildfire risk has put a financial strain on these communities due to increased cost and decreased availability of home insurance."	N/A
Merced Public Workshop	The tree mortality poses a big safety risk to forested communities. PG&E takes some trees down but leaves the trees behind after they are felled. There is not funding available to take trees down and remove them from property.	Funding for landowners is a "next step" under F-7.	N/A

Ocean and Coast Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
Heal the Ocean	Add wastewater treatment plants to O-1.7a. Wastewater treatment plants should actively engage in the planning process immediately, and submit their own sub-recommendations due to their importance to California cities and the unique challenges associated with protecting wastewater treatment infrastructure. Coastal wastewater treatment plants are among the most susceptible facilities to sea-level rise, and their infrastructure, such as vaults and pump stations, are already being threatened in some areas. Specific planning and recommendations should be made for their protection from the threats of sea-level rise, and "next steps" should include: 1. Engineering and cost feasibility studies for movement of all vulnerable infrastructure that can be relocated to a higher or more protected area; 2. Reinforcement of non-movable infrastructure for sea-level rise and storm surges due to climate change driven storm systems; and 3. Regular monitoring of all at-risk coastal infrastructure.	Wastewater treatment plants were added to the general recommendation in O-1.8. For brevity, the plan does not have specific management strategies for all public infrastructure at risk.	O-1.8
ARCCA	O-4: In addition to existing text, include as an ongoing action AB-2516. The Planning for Sea Level Rise Database should include finished, current, and planned coastal vulnerability assessments as well as a catalogue of implemented adaptation strategies.	This was listed as an ongoing action in O-1.	N/A
ARCCA	O-5: We encourage the expansion of this section to include which agency or agencies will perform each of these specific outreach and communications activities. It would be particularly useful to include the lead agency conducting outreach and trainings to support local efforts to update plans (O-5.3). The City of Los Angeles is currently in the process of updating its Local Hazard Mitigation Plan, but the State seems somewhat removed from that process; it would be helpful to include the lead agency and engage with ARCCA member regional climate collaboratives to better engage in local planning efforts.	For brevity and consistency with other chapters within the plan, this was not included. However, we will internally track the progress of Safeguarding California and publish a report in 2018 to show what progress each state agency involved has made in accomplishing the actions within the plan.	N/A
Port of San Diego	Recommendation O-1.5 addresses the need to develop policies to protect the Public Trust along the coast; however, the Plan is vague as to the definition of those uses. The District recommends that the Public Trust uses be further identified in the Plan. The Recommendations in O-1.5 address the need to safeguard beaches, public access, and cultural and archeological resources threatened by climate change, but do not acknowledge the breadth of Public Trust uses such as navigation, commerce, and fisheries, which will also need to be protected.	This is further explained now in the new chapter on Recreation and Culture. See PC-1.10.	PC-1.10

Source	*Comment Summary*	*Response*	*Edit Location*
Coastal Conservancy	Under Recommendation CA-4, add a paragraph that mentions using post-disaster hazard mitigation grants to increases resiliency. "Apply hazard mitigation grants to multi-benefit projects that enhance resilience to climate change impacts. The Coastal Conservancy has been working with the Federal Emergency Management Agency to identify projects that reduce existing and future coastal hazards through ecosystem restoration, green infrastructure and other multi-benefit strategies. The next step is to work with Cal OES to apply post disaster hazard mitigation funds to implement these projects.	These paragraphs are meant to be brief/ high-level; hazard mitigation grants are discussed more fully in the Emergency Management chapter.	N/A
Coastal Conservancy	Move all LCP discussion to land use section (p. 104).	Given its relevance to both chapters in overlapping but distinct ways, why not address in both? It is our understanding that some people only read one chapter so we want to make sure each chapter covers all relevant related adaptation strategies.	N/A
Coastal Conservancy	A way to make "real" progress with increasing resiliency in low-income and disadvantaged communities is to recommend state agencies work with low-income and disadvantaged communities, through grant programs or otherwise, to provide stipends for dinner and childcare.	We agree that this a good recommendation but beyond the specificity of the Ocean chapter.	N/A
Heal the Ocean	Recommendation O-2 and its next steps should include a discussion of protecting existing coastal systems from development or change, as well as removing sea walls, and other armoring structures. There should be a recommendation for prevention of installation of new structures in threatened coastal zones. The report notes that armoring structures can prevent ecosystems from migrating inward and effect natural shoreline processes, so it should also give special attention to preventing new structures from being installed and removing structures that are already there. Protecting existing natural coastal ecosystems will be far more effective than establishing new systems or restoring damaged ecosystems. A next step should describe the prevention of development on sensitive or potentially sensitive coastal systems, with special attention being given to historical or current wetlands or sloughs.	O-1 has information on avoiding hard armoring; information was added to O-2 to make this more explicit.	O-2

Source	*Comment Summary*	*Response*	*Edit Location*
Coastal Conservancy	Include the following examples: • Coastal Conservancy Climate Ready grant program provides funds and technical assistance to local communities to assess climate impacts and plan for adaptation. The 2017 grant round is focused on aiding vulnerable communities. • The Bay Area Resilient by Design initiative has launched a design challenge to attract architects and designers to develop new approaches and innovative solutions to specific sites in the nine-county region that are at risk for climate change-related. • Senate Bill 1066 (Lieu) gave the Coastal Conservancy explicit authority to prepare for and adapt to the effects of climate change and take action against its causes. • The California Climate Resilience Account was created to accept and provide funds for climate adaptation work by the state's coastal management agencies.	These were added to the appropriate "Ongoing Action" sections (O-1, O-6).	Ongoing Actions O-1. and O-6
City and County of SF	Greater guidance and assistance from State agencies is needed to translate the policies and direction of this Plan to all the stakeholders. For example, sea level rise policies and projections are oftentimes moving targets. This makes it difficult for local entities to plan for sea level rise and begin the permitting process with a clear understanding of the conditions for approval. In addition, other than agencies like the S.F. Bay Conservation and Development Commission and State Coastal Conservancy, there does not appear to be much active collaboration between the federal, state, and local stakeholders.	While greater guidance for State agencies is a crucial obligation, this document isn't intended to be used to tell local entities how to adopt to specific impacts of climate change. Given its broad scope, it's intended to provide a blueprint for state agencies to adapt to climate change. However, documents such as the CCC's and OPC's Sea Level Rise Guidance provide more detailed guidance on this topic.	N/A
City and County of SF	The Plan should provide recognition that nature-based shoreline protection systems may not always be feasible and that some hard armoring may be necessary in certain circumstances. This is the situation for many airports, like SFO, and other critical shoreline located facilities. We would propose the permitting and project mitigation allow for in-lieu mitigation solutions such as mitigation banks and regional advanced mitigation plans (RAMPs) so that flooding and sea level rise is addressed on a regionwide basis.	O-2.4 was expanded to reflect this.	O-2.4

Source	*Comment Summary*	*Response*	*Edit Location*
CPEHN	Sea level rise: There are triggers and impacts related to the contamination of the ocean, soil erosion and the resulting rise of the sea level. Issues including displacement and strengthening infrastructure such as levies need to be addressed. Mapping potential flood areas should be a priority.	Mapping is addressed in O-4.	N/A
CPEHN	Ocean Acidification: Economic impacts of acidification should be address as jobs will be lost due shortened seasons, changing pH levels, and increased temperatures. Food quality issues should be addressed as we look at the depletion of the food supply.	This was added to O-4.8	O-4.8
Coastal Conservancy	• Consider combining O-1.2 with O-1.4 and O-1.4a. Include providing funding and technical assistance to local jurisdictions. • Consider deleting the last part of O-1.3. The decision-making criteria could include total economic valuation. Are these tools advanced enough that we want to prioritize in all cases? Change to "O-1.3. Integrate climate adaptation considerations into state agency planning, investment, and funding decisions more fully by increasing coordination with local and regional partners, developing useful guidance, standards, and evaluation criteria for decision-making. • O-1.7a could probably be combined with O-1.3 • Consider broadening O-1.5 to include natural and recreational resources: O1.5b Assess, and plan and implement projects for the protection to reduce climate change impacts to beaches and public access to the shoreline and public recreational resources.so that the loss of beaches does not disproportionately burden underserved or other underrepresented populations. • Should O-1.7b be listed under regulatory authority; would buy-out programs be regulatory or voluntary?	Changes were made to clarify O-1 that incorporate these recommendations.	O-1
Coastal Conservancy	Regarding the recommendation on page 38, the Coastal Conservancy feels the lack of case studies, information, resources are not the root problem of supporting technical support to local and regional governments and communities; the problem is the lack of capacity at the local jurisdictional level, and technical guidance. Local jurisdictions need funding to build capacity and enable staff to engage with available resources. Continuing to increase tools and resources will not be effective until capacity at the local level through grants to local jurisdictions and community organizations is increased.	O-2 aligns with this comment.	O-2

Source	*Comment Summary*	*Response*	*Edit Location*
ARCCA	O-1.3: Include guidance to ensure a consistent approach in making economic valuation (particularly non-market valuation) determinations	This is beyond the specificity of the Ocean chapter.	N/A
ARCCA	O-3: include as an ongoing action the State Coastal Conservancy's efforts in leveraging Ocean Protection Council investment in CoSMoS by supporting outreach workshops for local communities through the USC Sea Grant program.	This was added to existing language on CoSMoS in O-3.	O-3
ARCCA	O-3: include as an ongoing action USC Sea Grant and California Sea Grant fund relevant scientific research on ocean and coastal topics with facilitation through the Natural Resources Agency Sea Grant Advisory Panel (RASGAP) via the Ocean Protection Council to ensure the science is relevant for the needs of state managers.	This was added to O-3.	O-3
Coastal Conservancy	Measure AA will provide $500 million in local bonds (not $300 million)	This was deleted from the final version of the Plan.	Introduction of Plan
Coastal Conservancy	Recommendations O-1 and O-2 are a little confusing as written; it's hard to understand the key point. O-4 (understand vulnerabilities) should come earlier, so maybe consider reorganizing. Consider changing the wording on the following: O-1: Support planning and adaptation strategies to increase the resilience of coastal communities (focus on the built environment); O-2: Design and implement projects to protect and enhance adaptive capacity of coastal and marine ecosystems, including beaches (this would focus on natural environmental and recreational resources).	We reworded these recommendations to better clarify the differences between them.	O-1, O-2
Coastal Conservancy	Change O-4 recommendation to be shorter and clearer, such as, "assess community and ecosystem vulnerability to climate impacts.	Noted; these changes were made.	O-4
ARCCA	O-6: Coordination and communication between State entities and local jurisdictions are seldom commonplace, sustained, or strategic. We encourage Natural Resources Agency to foster stronger state-local relationships to increase flexibility and the state's ability and capacity to adapt. We recommend Natural Resources Agency, to whatever extent possible, target funding towards collaborations and coordination of state agency, as well as with local and federal governments. We also encourage leveraging ARCCA's growing statewide network of regional climate collaboratives to engage with regional collaboratives and their local members.	This was added in O-6.	O-6

Source	*Comment Summary*	*Response*	*Edit Location*
Delta Stewardship Council	The Delta Stewardship Council is committed to the development of a Delta governance strategy for climate adaptation projects; providing policy leadership on resilient infrastructure; creating new funding sources for adaptation and resilience; establishing and providing a resilience technical services team; and expanding of the Delta's network of natural infrastructure.	This was added as an "Ongoing Action" under O-1.	O-1
The Nature Conservancy	Natural infrastructure: TNC is pleased that the draft SCP explicitly promotes the use of natural infrastructure as an adaptation response. Indeed, natural infrastructure isn't just a good idea, it's the law! TNCs 4th Climate Assessment project – in partnership with Point Blue and Environmental Sciences Associates – will fill awareness and scientific gaps in the deployment of Natural Coastal Infrastructure for sea level rise adaptation, helping to advance these goals. However, an additional hurdle – the regulatory one – needs to be surmounted. Specifically, agencies tasked with permitting natural infrastructure often require a higher standard of performance and many years of post-project monitoring before allowing coastal natural infrastructure projects to proceed. This creates a much higher bar to using natural infrastructure for coastal adaptation than for use of seawalls or rock revetments, for which permitting is much simpler. The final SCP should include a specific recommendation that this unduly burdensome process be changed in favor of a more streamlined permitting process for natural infrastructure.	Natural infrastructure was elaborated further in O-2.	O-2
The Nature Conservancy	State focus: The draft SCP has a welcome focus on state entities, in addition to local governments, that has been missing from previous iterations. For far too long, the State has focused its reports, guidance and other documents on the need for local governments to adapt to sea level rise. While true, this ignores the fact that nearly a third of the coastline is managed by a state agency, State Parks, which lacks any meaningful framework for adaptation. The State Lands Commission, too, manages tidelands in the absence of a specific guiding framework for sea level rise adaptation. Further, a great many local coastal management decisions are impacted by the management of the Pacific Coast Highway by Caltrans. It is important now that the state led by example, TNC recommends that the Final SCP specifically recommends that these agencies develop a coordinated framework for integrating sea level rise into their management of public trust resources. Recommendations O-	This is addressed in the new Parks, Recreation, and California Culture chapter.	Parks, Recreation, and California Culture chapter

Source	Comment Summary	Response	Edit Location
	1.3 and O-1.7a touch on this notion, but they are insufficiently specific to enhance resilience of state resources.		
The Nature Conservancy	Disadvantaged communities and decision-making: The draft SCP rightly highlights the need to ensure that disadvantaged communities are not unfairly burdened by the impacts of climate change, or presumably with the impacts of adapting to it. However, Recommendation O-1.4 goes only so far as to suggest equity in grantmaking. Although important, this is insufficient by itself. It is critical that disadvantaged communities are empowered with a powerful voice in development decision-making and other agency action in which sea level rise adaptation is an issue. For example, the City of Oxnard – a disadvantaged community – has repeatedly passed resolutions opposing to power plant development and relicensing on its shoreline, where sea level rise and coastal hazards are likely to have an impact. Despite these Resolutions, state agencies, such as the CPUC and CEC, have pursued formal licensing processes that take little account of this local opposition. The Final SCP should prioritize the integration of disadvantaged communities into formal decision-making to ensure that adaptation responses do not inequitably impact these groups. This is also discussed above, in our general comments.	This was described further in O-5, and addressed more comprehensively in the Land Use chapter.	O-5
The Nature Conservancy	Science and research: The Introduction repeatedly mentions the importance of understanding and quantifying the impacts of ocean change. TNC agrees, and California should be very proud of its contributions to understanding climate change impacts regionally. With the expansion of CoSMoS and its derivative reports, there are powerful new scientific tools that give us an ever-greater ability to assess our vulnerability. However, it is increasingly apparent that our understanding of the science is vastly outpacing our efforts to prepare for and address these changes. Often, increased understanding leads to the need to make very difficult choices. Creating coastal resilience in the face of climate change will require significant commitment of financial resources and political capital.	The last sentence in the introduction to the Ocean chapter was added to address this: "The sector relies on and supports the development of the best available science to guide these adaptation efforts, and recognizes that resilience in the face of climate change will require commensurate financial resources and political capital."	Introduction to Ocean chapter

Source	Comment Summary	Response	Edit Location
The Nature Conservancy	Beach loss and managed retreat: Vitousek et al. (2017) found that up to 67% of southern California beaches will be lost to sea level rise by 2100, along with the enormous economy supported by those beaches. This is a problem of enormous consequence, which the draft SCP touches on in Recommendation O-2.1, but in a vague, nonspecific way. As the draft SCP acknowledges, to avoid losing our beaches there will need to be investment in nourishment or managed retreat. However, the document fails to recognize the magnitude of the required response: investment in either or both will have to be massive. Sea level rise will exacerbate coastal erosion – already a problem for much of California's shoreline – and make sand increasingly scarce and expensive. The volumes required for nourishment will increase over time, as the land-sea interface creeps landward. Managed retreat may, in fact, be the most cost-effective option long-term, but few agencies have committed to evaluating this as an option, much less pursuing it. The final SCP should explicitly call for a full evaluation of managed retreat as a strategy for saving California's beaches, including a feasibility study and cost-benefit assessment of the alternatives.	More language on managed retreat was added in O-2.	O-2
The Nature Conservancy	Protecting undeveloped lands: The draft SCP includes specific mention of preserving undeveloped open space landward of coastal habitat to ensure that habitat migration can occur (intro to Recommendation O-2 and O-4.3); this is a welcome addition to the state's policy framework. TNC's work on identifying and protecting undeveloped uplands – the locations into which habitat migration can occur – should provide the start of a blueprint for prioritizing this action. However, acquisition alone will be insufficient; given the incredibly high cost of coastal land in California, there simply is not enough money. Therefore, a robust strategy for protecting undeveloped uplands will also need to include land use management, reducing the incentive to armor or develop undeveloped uplands, and preserve them in an undeveloped state to facilitate habitat migration. The final SCP should include a recommendation that the Coastal Commission study and report on options to accomplish this.	More language on preserving unprotected lands and managed retreat was added in O-2, but some of these suggestions are beyond the scope of this plan.	O-2

Source	*Comment Summary*	*Response*	*Edit Location*
The Nature Conservancy	Turn vulnerability assessments into action: The state should provide technical guidance and staff support to guide turning vulnerability information into plans and ordinances. Recommendation O-4 advises that California continue to invest in vulnerability assessments, tools and analyses. TNC agrees, but suggest that this recommendation go further. For many of our local government partners, the LCP grants support the production of robust vulnerability assessments, leaving the local planners with little idea of what to do with the information.	O-1 and O-2's next steps are about turning vulnerability assessments into action.	N/A
The Nature Conservancy	Although TNC commends the progress towards acknowledging marine fisheries in the Ocean and Coast Chapter, the importance of these critically important natural resources and the communities they support is significantly understated. Climate change poses pervasive ecological and socio-economic challenges to marine fisheries. It is critical that the state make greater progress more rapidly to more effectively manage marine resources, given the vulnerability of species and coastal ecosystems to changing ocean conditions. The state has an important opportunity to address these challenges by including strong recommendations for solutions and next steps in the Safeguarding California 2017 update. In the introduction of the Oceans and Coastal chapter, TNC suggests the inclusion of a paragraph after the paragraph that addresses impacts of ocean warming: "Marine fisheries and fishing communities are also increasingly impacted by climate change, specifically through ocean acidification, ocean warming, and increased frequency of extreme events. The subsequent disruption of marine food webs, shifts in species' suitable habitats, and changes in fish productivity not only threaten our ocean ecosystems, but also endanger the livelihoods of the fishing communities dependent upon a stable stream of income generated by California's marine resources. Additionally, exacerbation of natural phenomena, such as increased duration of harmful algal blooms, exemplifies the increasing uncertainty facing California fishing industry. Solutions to these challenges demand the use of adaptive, responsive fisheries management, informed by real-time, high quality data, to improve economic outcomes for harvesters and ensure long-term conservation of marine resources."	The chapter introduction does mention marine fisheries now, but is meant to be a brief overview of issues within the sector.	Introduction to Ocean chapter

Source	*Comment Summary*	*Response*	*Edit Location*
The Nature Conservancy	Marine Fisheries - Recommendation O-1: TNC recommends including explicit language that addresses threats to fishing operations and harbor/port infrastructure used by the valuable fishing and seafood industries. TNC suggests changing O1.7a to read: "…Provide guidance and technical assistance to assist non-state entities to begin planning to address critical infrastructure at risk from sea level rise, including those at harbors and ports necessary for commercial and recreational fishing operations." Also, the phrase "Use regulatory authority to reduce risk" in O-1.7 is unclear, and the plan should elaborate slightly on what type of regulatory authority is recommended.	This was left as-is since it communicates the same message; "regulatory authority" refers broadly to state regulatory authority since the Plan's focus is on what state government should do to adapt to climate change.	N/A
The Nature Conservancy	Marine Fisheries - Recommendation O-2: Marine protected area (MPA) networks, such as California's extensive MPA network, can be thought of as marine natural infrastructure that can be used to improve fisheries management and support improved information-gathering needed to manage fisheries under climate change. In this way, marine reserves are effective tools for promoting ecological resilience of marine fisheries. TNC suggests changing O-2.5 to read: • O-2.5. "Research and explore the extent to which Marine Protected Areas (MPAs) buffer marine resources against the negative impacts of climate change and consider climate impacts in MPA management; explore applications of California MPAs in monitoring and management planning that directly support marine fisheries ecological resilience and assist managers in decision-making; continue to ensure adequate enforcement of MPA regulations." And to add the following "Ongoing Action": • Current projects to better integrate the Marine Life Management Act and the Marine Life Protection Act will provide direct mechanisms to utilize MPAs in the type of nimble, fisheries management required under changing ocean conditions.	More information on MPAs was added to O-2.12	O-2.12
The Nature Conservancy	Marine Fisheries - Recommendation O-3: In the Ongoing Action section, TNC commends progress on the Master Plan update, but acknowledge that climate change is not addressed in the current Ecological Risk Assessment information gathering project, which presents a major knowledge gap in community and ecosystem climate change vulnerability (linked to Recommendation O-4). For actionable science to best inform proactive preparation for climate change impacts, TNC recommends that	This ongoing action was added to O-4.	O-4 Ongoing Actions

Source	Comment Summary	Response	Edit Location
	the Ocean Protection Council encourage the inclusion of climate change in these initiatives, or support methods to include climate science as it becomes available. Specifically, TNC recommends editing the following Ongoing Actions: • The Ocean Protection Council is supporting the following information gathering projects: Climate Change and Fisheries working group, peer review for Fishery Management Plans, Productivity and Susceptibility Analysis (PSA) and Ecological Risk Assessment (ERA), as well as supporting the development of socioeconomic guidance for fisheries management. • [Add a new bullet:] "The Southern California Coastal Ocean Observing System……"		
The Nature Conservancy	Marine Fisheries - Recommendation O-4: Assess community and ecosystem vulnerability using decision support tools and analyses. Community and ecosystem climate vulnerability assessments (CVAs) form the critical foundation for understanding predicted changes in social-ecological marine fisheries systems and developing subsequent management and conservation actions to promote resilience. Therefore, TNC strongly encourages including specific language to support a social-ecological marine fisheries CVA, which has not been conducted for state-managed marine fisheries to date. TNC suggests the following improvements, or the addition of O-4.1c below: O-4.1c. Conduct an integrated social-ecological climate vulnerability assessment for California's marine fisheries and fishing communities, tailoring existing methodologies developed at federal and state levels or described in scientific literature to the state of California so that results can be integrated into climate-ready management strategies.	More information was added to O-4 to address this.	O-4
The Nature Conservancy	Marine Fisheries - Recommendation O-5: TNC suggests the small improvement to O-5.4. "Conduct relevant outreach directly to specific marine resource users and sector communities, like fishers and seafood industry, who may be impacted by climate change."	A change was made in O-5.3 to reflect this.	O-5.3
The Nature Conservancy	Marine Fisheries - Recommendation O-6: Coordinate across agencies and with external partners to ensure efficient problem solving to address climate change impacts. As the National Marine Fisheries Service (NMFS) has been a leader in developing tools and practices to address impacts of climate change on marine fisheries, specifically those that cross static	The second sentence in the paragraph introducing O-6 mentions federal collaboration.	N/A

Source	Comment Summary	Response	Edit Location
	boundaries, TNC suggests highlighting the importance of federal-state collaboration in the introductory paragraph: "State agencies that work with ocean issues are continuously collaborating and exchanging information to address changing ocean and coastal conditions due to climate change. Because ocean currents and resources are not bounded by traditional jurisdictional lines, it is critical that agencies collaborate across their jurisdictions to safeguard the health of our ocean and coastal ecosystems and resources, with a focus on safeguarding vulnerable populations. Impacts such as sea-level rise, ocean acidification and hypoxia, and storm surge and severe storm events vary in severity along the California coastline, and require effective coordination and planning to ensure successful adaptation of our coastal communities, ecosystems and economies." These impacts affect the entire California Current, and mitigation measures will necessitate both interstate and federal collaboration, particularly to address range shifts by marine fisheries. Many state agency working groups and task forces are targeting specific climate change issues on the ocean and coast to address climate change impacts on our ecosystems, resources, and communities, and to ensure successful adaptation within the state. to the impacts of climate change.		

Water Chapter Comments

Source	*Comment Summary*	*Response*	*Edit Location*
Sierra Business Council, ARCCA	Source watershed restoration freshwater storage and filtration services are not adequately acknowledged in the Water section, and leaving these benefits out makes the Draft risk perpetuating the same public perception disconnect between population centers and critical resources that it seeks to overcome in other education-focused sections. W-10 should be reframed to more clearly acknowledge the water supply benefits of source watersheds in the introduction (such as by stating how the Sierra Nevada region alone provides approximately two-thirds of the State's developed water supply) and the subsequent Next Steps should reiterate recommendations F-5 and F-1.3.	The introduction to W-10 was edited to emphasize the importance of the Sierra Nevada. Next steps W-10.6 and 10-7 were added on management of source watersheds.	Introduction to recommendation W-10; W-10.6; W-10.7
Sierra Business Council, ARCCA	To increase groundwater recharge, increase duration of floodplain inundation decrease annual surface runoff, and provide habitat, an estimated 130,000 to 200,000 acres (40 to 60%) of Sierra meadows need restoration, according to the National Fish and Wildlife Foundation's Sierra Nevada Meadow Restoration Business Plan. Increasing the mountain meadow habitat restoration goal to meet the non-federal portions of the NFWF plan should be added to the plan.	The introduction to W-10 was edited to include this, plus references. Meadow restoration was added to W-10.6	Introduction to recommendation W-10; W-10.6
ARCCA	The resiliency of California's water should be considered more holistically. The health of upper watershed forests and meadows is critical to maintaining the resilience of California's water supply. We recommend including a separate recommendation to address strategies to restore and maintain upper watershed forests and meadows, and potentially linking watershed health with the Forests chapter. By not explicitly addressing source watersheds in the Water chapter (beyond the benefit to habitat), the Plan risks perpetuating the same public perception disconnect between population centers and critical resources that it seeks to overcome in other education-focused sections.	Edits were made to W-5 regarding upper watersheds. Next Step W-10.6 and a sentence in the chapter introduction were added to address this as well. Revisions were also made by the authors of the Forest chapter to better link forest management to water resources.	Introduction to Water chapter; W-5; W-10; F-3
Heal the Ocean	W-1 should specifically address low-lying or at-risk wastewater infrastructure.	Next step W-1.10 was added to address wastewater infrastructure.	W-1.10
Heal the Ocean	W-3 consider using potable reuse water terminology established by AB 574 (Quirk). The Safeguarding California Plan would be well-served by amending language to reflect newer terminology. The four proposed categories of potable reuse, "groundwater augmentation, "reservoir augmentation," "raw water augmentation," and "treated	Direct potable reuse is a different matter than the four proposed categories of augmentation, and the augmentation categories do not apply.	N/A

Source	Comment Summary	Response	Edit Location
	drinking water augmentation," are already in use in proposed potable reuse projects.		
Bay Area Stormwater Management Agencies Association	W-8 Include other state agencies in support of implementing green infrastructure solutions, such as the Department of Water Resources Integrated Regional Water Management program and associated bond funds. Similarly, the Strategic Growth Council and State Coastal Conservancy have been on the forefront of efforts to integrate green infrastructure with other state priorities. Revise this section to address programs and efforts that are already or will be implemented by all relevant state agencies, not just the State and Regional Water Boards.	A bullet was added to W-8 on Strategic Growth Council and State Coastal Conservancy Programs for natural infrastructure.	W-8 ongoing actions
San Diego County Water Authority	W-3 Include Next Step that promotes holistic water supply diversification through potable reuse and ocean desalination permit streamlining. The Plan Update should identify all viable local supply sources including ocean desalination and potable reuse as diversification strategies. "The State Water Resources Control Board will provide efficient permitting of ocean desalination facilities under the California Ocean Plan (and potable reuse facilities).	The introductory text to W-3 and its first ongoing action are general to include all viable local sources, including desalination and potable reuse. A sentence was added to the W-3 opening paragraph to better emphasize this.	Introduction to W-3
San Diego County Water Authority	W-3 Include Next Steps that elevate, promote and sustain Integrated Regional Water Management. The diversification strategy fails to recognize ongoing actions in IRWM that have been vital in making regions across the state more resilient to changing climate. a) DWR will publish findings of the "Draft 2015 IRWM Strategic Plan" and implement recommendations included within. b) DWR shall integrate the recommendation of the IRWM Strategic Plan and recommendations into the California Water Plan Update 2018 and the California Water Action Plan c) DWR, the State Water Resources Control Board, the legislature, and the Governor should work together to address long-term funding support for IRWM.	Noted; IRWM is mentioned in W-8. For brevity, these changes were not included; please refer to the IRWM program.	N/A
San Diego County Water Authority	W-3 Recognize individual agencies' or regions' unique water supply conditions and differences. The Water Authority urges state agencies to provide a mechanism for a thoughtful and deliberative process inclusive of broad stakeholders and regional experts to develop water use targets that account for differences in local conditions.	W-3 is meant to be general to respect these differences and unique water supply conditions. The introduction to W-3 was revised to better emphasize this point.	Introduction to W-3

Source	Comment Summary	Response	Edit Location
California Association of Sanitation Agencies (CASA)	As noted on the previous version, the Draft Update fails to emphasize the vulnerability of wastewater infrastructure to impacts of climate change and the overall value of the wastewater sector to the resilience of communities under a changing climate (being significant renewable energy providers, low carbon fuel providers, suppliers of a marketable renewable organic fertilizer/soil amendment product, and suppliers of a sustainable, drought-proof water supply) – there is brief mention of wastewater in only two sections, the Ocean and Coast and Water sections. CASA strongly recommends that the Water section of the Draft Update be re-titled as "Water/Wastewater" recognizing the vital public service municipal wastewater treatment plants serve and that they will be heavily impacted by climate change.	A sentence was added to the introduction of the Water chapter to better emphasize wastewater.	Introduction to Water chapter
California Association of Sanitation Agencies (CASA)	In many circumstances, wastewater collection systems are already stressed when managing wet weather flows. In a changing climate, we expect further increases in extreme storm events and more frequent peak wet weather flows, further stressing this critical infrastructure. Flood protection adaptation measures such as levees and seawalls will be needed to stem both rising seas and floods associated with increased and extreme precipitation and runoff. Extreme storm events and overall precipitation increases will also require wet weather program enhancements like stormwater capture and reuse. As cities begin to comply with stringent stormwater regulations, many wastewater treatment agencies are increasing efforts to capture and treat stormwater.	Next step W-1.10 was added to address wastewater infrastructure.	W-1.10
California Association of Sanitation Agencies (CASA)	Worsening drought conditions could have a two-fold impact on wastewater treatment plants. First, drought may alter water quality upstream of natural surface waters, limiting the watershed's ability to receive treated wastewater, thus leading to potential discharge violations. This watershed impairment could lead to the need for enhanced treatment, most often requiring significant plant modifications and greater energy usage. In lieu of increased treatment requirements, temporary discharge permit relief should be sought with the appropriate regulatory authorities, in recognition of the need for critical water resources.	Although it is not as explicit as this suggested language, this issue is addressed to a degree in the last ongoing action listed under recommendation W-10: "adaptive strategies in municipal and industrial permits to protect and restore the chemical, physical, and biological integrity of the state's surface and ground waters to ensure continued efficacy of regulatory programs during times such as drought".	N/A

Source	Comment Summary	Response	Edit Location
California Association of Sanitation Agencies (CASA)	CASA and National Association of Clean Water Agencies (NACWA) have testified to the United States Congress that existing infrastructure demands on wastewater agencies are estimated to exceed $298 billion over the next 20 years. Additionally, the American Society of Civil Engineers (ASCE) recently assigned an overall grade of C to California's infrastructure (C+ for wastewater) with an annual shortfall of $65 billion. These amounts do not consider the additional costs to rectify climate change impacts. In 2009, NACWA and the Association of Metropolitan Water Agencies (AMWA) studied the impacts and challenges the wastewater sector expects to encounter in the coming years (including impacts of climate change), and the projected costs of meeting those challenges. The report projects nationwide costs for water and wastewater climate adaptation needs could range from one-half to one trillion dollars through 2050. Of this, the total estimated cost to adapt wastewater systems to climate change across the U.S. is between $123 billion and $252 billion, above and beyond existing wastewater system infrastructure upgrade, renewal, and replacement needs. Please note that this analysis did not take into consideration the potential accelerated deterioration of wastewater systems because of water conservation mandates. The State's first efforts should be to prioritize water supply options that are protective of wastewater and recycling systems (i.e., integrate water and wastewater life cycle analyses) and address the unmet existing infrastructure needs that place the State at further risk to climate change impacts. CASA agrees that diversifying local supplies is key - recycled water (both non-potable and potable reuse) and desalinated water are significantly underused reliable and local water resources that the wastewater sector can provide. Ultimately, sustainable water supply decision-making must be made at the local level since each has unique conditions that must be addressed. Robust planning, however, should include a review of anticipated impacts to water and wastewater systems as an integrated unit. The two are inherently connected; decisions made by water agencies will impact wastewater conditions.	Edits to the introduction to recommendation W-3 recognize unique local conditions and differences, and leave water supply options to local communities to identify and decide on. Wastewater infrastructure was better emphasized in the introduction to the Water chapter and in W-1.10.	Introduction to W-3; Introduction to Water chapter; W-10
CPEHN	Water rights access: Define the human "right to water" and state this as a value for the report. Identify and note differences between rural	For brevity, California's Human Right to Water Policy is touched on in W-6	N/A

Source	Comment Summary	Response	Edit Location
	and urban residential water usage and identify equitable use to set goals and objectives for improving access. Set goals for a diverse water supply – especially given our fragmented regulation of water including private wells, public water, and other systems. Any assessment should also include an access of water and rain in the larger context of climate change, including snow packs and groundwater depletion.	and a link is provided for more information. W-3 focuses on diversifying local water supplies. The introduction provides an overview of the issues stated in the last sentence of this comment. For brevity of the document, these issues are summarized since Safeguarding California is not meant to be a climate change vulnerability assessment.	
CPEHN	Water infrastructure: Identify and develop ways to monitor and use grey and black water; assess our current and future infrastructure needs; and identify ways that other industries including technology, agriculture, dairy, and others are responsible for assisting with the development and strengthening of our water systems.	Noted; these comments may be beyond the specificity of Safeguarding California.	N/A
CPEHN	Connections to agriculture and food: Factor in water usage by industry, including the agricultural, cattle and dairy industries. Additionally, monitor how increased periods of drought affect jobs and other economic opportunities as the impacts of climate change on food and agriculture reverberate widely.	Noted; connections between water and agriculture are made in W-3.7 and A-1. The Public Health chapter (introductory text to P-3) also mentions how if farming is made more resilient to the impacts of climate change, farmers and farmworkers are less likely to experience threats to their livelihoods, as they did during the recent historic California drought.	N/A
CPEHN	Chemicals and pesticides in water sources: Chemicals and pesticides often wind up in water sources either from runoff or other contamination which can affect both ocean and water systems. Identify potential financial incentives to cut usage and improve water quality by measuring impacts of toxics and chemicals. Identify ways chemicals and toxics issues run through all chapters, as climate change can exacerbate toxics exposure across multiple sectors.	Recommendation P-3 discusses the link between pesticides and health.	N/A

Source	Comment Summary	Response	Edit Location
Santa Ana Watershed Project Authority	W-2 and L-3 are closely related. Emphasizing this connection and drawing attention to CA-6 could make for a stronger draft.	The cross-sector icons in the final version of Safeguarding California aim to better emphasize connections between recommendations.	Cross-sector icons
ARCCA	W-4: We recommend a greater consideration of saltwater intrusion in the Delta and its effects on drinking water, Delta residents, and agriculture.	The introductory text to W-4 mentions the threat of saltwater intrusion to drinking water.	N/A
The Nature Conservancy	Hotter and drier conditions may result in increased water demand being met from groundwater supplies, which requires electricity to pump. It may also result in less available hydropower, with the expectation that power plants will fill the energy gap at a time when higher temperatures could reduce their efficiency. The Plan briefly mentions this nexus in the Energy chapter, by highlighting the need for more research in this area, and in the Water chapter, by mentioning the Water-Energy grant programs. A more coordinated discussion of how the sectors and respective departments are, and plan to enhance working together and the anticipated benefits of closer collaboration would be helpful.	Noted; although this issue is mentioned in the Water and Energy chapters, it may be better addressed collaboratively in conversations between state agencies and not within Safeguarding California.	N/A
Santa Ana Watershed Project Authority	W-5 and P-5/P-9 are closely connected. This connection should be emphasized in the text while also calling attention to CA-6.	The cross-sector icons in the final version of Safeguarding California aim to better emphasize connections between recommendations.	Cross-sector icons
Delta Stewardship Council	The Delta Stewardship Council is committed to the development of a Delta governance strategy for climate adaptation projects; providing policy leadership on resilient infrastructure; creating new funding sources for adaptation and resilience; establishing and providing a resilience technical services team; and expanding of the Delta's network of natural infrastructure.	Noted; thank you for your comment. Edits were made to the ongoing actions for W-4 to reflect the work of the Delta Stewardship Council.	W-4 ongoing actions
Bay Area Stormwater Management Agencies Association	Ongoing actions should include the Association of Bay Area Governments (ABAG)/San Francisco Estuary Partnership Urban Greening Bay Area Project. Urban Greening Bay Area includes a Regional Roundtable series of working meetings where local, regional, state, and federal agencies, elected/appointed officials, and private sector and non-profit partners are developing policy solutions to integrate transportation, climate, and water quality investments.	We commend this effort, but this plan is focused on what State Agencies are doing to adapt to climate change.	N/A

Source	Comment Summary	Response	Edit Location
The Nature Conservancy	In recommendations W-3/5, the Plan should urge increasing above-the-dam regional natural water storage system. The Nature Conservancy notes that above the dam storage using natural, ecosystem-based processes plays an essential role in preparing for, and responding to impacts of climate change. In addition to helping stabilize the state's water supply, these conservation-oriented actions provide multiple, cross sector benefits, as noted, to forests, biodiversity, fire risk reduction and meadow conservation.	Introductory text to W-5 description added, and related Next Step W-10.6 added.	W-5 and W-10
The Nature Conservancy	For W-7, TNC urges the enhancement of data and monitoring by creating a California water accounting system. As previously mentioned in this letter and our group letter of June 23rd, the Plan should explicitly identify resources and policies needed to successfully carry out the action items identified in the SCP. One of these needs is to enhance data and monitoring, and we urge creating a water accounting system to help accomplish this. This will promote results and send a message to relevant stakeholders, including the legislature and private investors, on the need to mobilize resources in support of climate adaptation in California.	Thank you for this comment; this is being addressed under AB 1755 implementation.	N/A
SF public workshop	Better methods of coordination are needed. How we should prioritize: safety, security, urgency, frontline communities, context shocks and stressors. How realistic are the recommendations in Safeguarding? Most seem realistic except W-4. Mentions of the Agriculture industry are missing from Safeguarding California. We need to make better use of existing tools rather than just making new ones. We should be clear about how we define things (i.e. improve water storage efficiency) and how these next steps are achieved. A lot of the Plan is framed through the lens of risk, but there needs to be more focus on opportunities.	These were important water issues brought up at the SF public workshop, but they do not necessarily suggest direct changes to the Plan.	N/A
SF public workshop	This chapter needs citations.	Citations were restored in the final version of the document.	Citations in footnotes throughout document
Coachella public workshop	More technical assistance is needed for small water systems.	This topic is covered in W-6.	N/A
Coachella public workshop	How does W-9 relate to bringing unincorporated communities into the fray?	We tried to highlight one example of improving water access in unincorporated communities through	Example of "Drought Resilience in Tulare County" in Water chapter

Source	Comment Summary	Response	Edit Location
		the "Drought Resilience in Tulare County" example within the chapter.	
Coachella public workshop	Collaboration between land use and water planning: Rural communities have trouble for meeting requirements for funding sources. Storage regulations must keep in mind of salt and nutrient content. We must change our mentality, we must extend lines over long distances rather than keeping part of centralized communities.	These were important water issues brought up at the Coachella public workshop, but they do not necessarily suggest direct changes to the Plan. We will keep them in mind going forward.	N/A
Auburn public workshop	Strengthen integration among areas throughout the Plan, specifically with respect to W-9. For example, there was mention of the importance of forests for water yields, or impact of extreme precipitation events on transportation (e.g. design/ sizing of culverts).	The cross-sector icons in the final version of Safeguarding California aim to better emphasize connections between recommendations.	Cross-sector icons
Auburn public workshop	A note that stating that the Delta is a source of drinking water for 2/3 of California population was not well received; the suggestion was to promote forests and upper watersheds more with Safeguarding.	The introductory paragraph for W-4 and call-out box at the start of the chapter were edited to reflect this.	Introduction to Water chapter; W-4
Auburn public workshop	This comment emphasizes building adaptive capacity, retreating where restoration goals are not realistic, and structuring actions to anticipate the need for refugia; an illustrative Wayne Gretzky quote that with climate change we should "skate to where the puck is going to be, not where it is" regarding references to "natural" hydrograph or how realistic some of the restoration goals are.	This comment is noted, and can be a consideration in implementing next step W-10.6.	N/A
Auburn public workshop	Other comments suggested: emphasizing the effect water conservation and storm water capture have on lowering flows for wastewater treatment infrastructure; maximizing natural solutions and exhausting all other options before resorting to surface water storage with regards to the Water Storage Investment Program; noting that snow sublimation or evapotranspiration are not accounted for in models adequately; the issue that climate projections showing a hot drought scenario are not getting enough attention (Udall and Overpeck 2017); a desire to expand Cal-Adapt to serve vulnerability assessments and 4th Assessment results; a suggestion to deliver "miner's inch" on a volumetric basis instead of current system of ditches; coordinating more effectively among programs and different levels of government for planning and communication; using a holistic approach to management, and taking a fresh look at all adaptation (headwaters/upper watershed management, or more effort to integrate SGMA and IRWM); including a greater emphasis on local	These were important water issues brought up at the Auburn public workshop, but they do not necessarily suggest direct changes to the Plan. We will keep them in mind going forward.	N/A

Source	Comment Summary	Response	Edit Location
	level, citizen/personal actions, and education; addressing other water-induced damage besides flood, such as erosion from high flows, or damage from decreasing flows too quickly after releases; and more thought should be given to damage to infrastructure from drought.		
LA public workshop	One commenter thought wastewater was completely left out of chapter, and suggested changing name to "Water and Wastewater." Others disagreed and thought a more "one water" approach would be to leave name as is, which implies all types of water. Other commenters suggested that the preamble to the Water Chapter to better incorporate this "one water" thinking.	These comments were noted, and revisions were made to the introduction to the Water chapter.	Introduction to Water chapter
LA public workshop	River corridor re-revegetation should be mentioned.	W-10 is meant to address restoration broadly, and would include river corridor re-vegetation where appropriate.	N/A
LA public workshop	Water treatment plants located in low lying vulnerable areas not mentioned.	Next step W-1.10 was added to address wastewater infrastructure.	W-1.10
LA public workshop	Wastewater as a potable water source not sufficiently addressed.	Noted; for brevity, potable reuse of recycled water is addressed broadly in W-3.6.	Introduction to Water chapter
LA public workshop	Wastewater discharges are linked to flows in rivers, this is a serious vulnerability for wastewater utilities (should be addressed in the plan)	Next step W-1.10 was added to address wastewater infrastructure.	N/A
LA public workshop	Strategy #8 (LID) should be broadened to include green infrastructure solutions in general	W-8 is meant to include natural infrastructure as a potential type of low-impact development, as noted in the first "Ongoing Action."	N/A
LA public workshop	Consider changing the name of W-3 so that it includes Diversity and Conservation, instead of Diversity and Efficiency.	The name of W-3 was modified to include "increase water conservation."	W-3
LA public workshop	More public education and outreach is needed; this should be an overarching strategy across all sectors but specifically water. The commenter suggested engaging the Department of Education and forming a Bureau of Climate Education.	Public education and information on climate change and water is discussed in W-6.2.	N/A

Source	*Comment Summary*	*Response*	*Edit Location*
Merced public workshop	Promote public awareness of water use and water supply situations. While there is some of this going on, the commenter mentioned hearing water use and supply condition information on the radio as part of the daily weather and traffic report in Arizona. People really don't think enough about water on a daily basis and a little reminder like that might influence behavior Connected to the previous suggestion, commenters suggesting having accurate and real-time information about water use and making that information more accessible to the public.	Public education and information on climate change and water is discussed in W-6.2. These were great suggestions for improving communication with the public about water use and supply. They do not suggest direct changes to Safeguarding California but are important comments to keep in mind for the future.	N/A