

CALIFORNIA COASTAL COMMISSION

45 FREMONT STREET, SUITE 2000
SAN FRANCISCO, CA 94105-2219
VOICE (415) 904-5200
FAX (415) 904-5400
TDD (415) 597-5885



FINAL

2016 Updated Assessment and Strategy for the California Coastal Management Program (CCMP)

*Performed Under Section 309
(the Coastal Zone Enhancement Grants Program)
of the
Coastal Zone Management Act*

(Assessment of 2010-2015, Strategy for FY 2016-2020)

September 3, 2015

This is an update to the 2010 Assessment and Strategy of the California Coastal Management Program. It provides a description and assessment of coastal resources and program needs in nine enhancement areas, in compliance with guidance provided by the federal Office for Coastal Management (OCM), National Oceanic and Atmospheric Administration. The Assessment includes achievements made under the current Section 309 grant and will serve as the basis for developing a strategy to address priority program needs in one or more enhancement areas during the next five year federal grant cycle.

PREFACE

Since 2010 the Commission has made significant enhancements to its coastal management program, especially in addressing improvements to the LCP Program and in addressing adaptation to climate change. Many of these enhancements have been supported, in part, through the funding provided by the CZMA Section 309 Enhancement Grants Program. To continue to participate in this important grants program, the Commission is required to complete the 309 Assessment and Strategy that, once approved by the Office for Coastal Management (OCM), will guide the Commission's annual application for enhancement grants for the 2016-2020 grant cycles. The **assessment** must (1) determine the extent to which problems and opportunities for program enhancement exist within each of the enhancement area objectives; (2) determine the effectiveness of existing management efforts to address identified problems; and (3) identify high priority needs for program enhancement. The assessment is provided in two phases: Phase I (high-level) and Phase II (in-depth). The **strategy** is a multi-year statement of goals to address high priority needs, identified in the assessment, for improving the state's Coastal Management Program (CMP) and lays out methods for achieving those goals that are designed to lead toward one or more program changes¹.

Commission staff developed this *Public Review Draft* in compliance with the prescribed format, directions and templates outlined in the *Coastal Zone Management Act Section 309 Program Guidance, 2016 to 2020 Enhancement Cycle* (National Oceanic and Atmospheric Administration, National Ocean Service, Office of Ocean and Coastal Resource Management, June 2014). This 309 Strategy has also been developed to implement selected objectives and actions of the Commission's Agency Strategic Plan 2013-2018.

An initial stakeholder survey with 110 responses helped to guide completion of this document. This Public Review Draft will be available for further public comment for a minimum of 30 calendar days and a Coastal Commission hearing will be held in the summer of 2015 to guide revisions to the Final Assessment and Strategy that is due for submittal by September, 2015.

This document is organized pursuant to the 309 Guidance as follows: The [Phase I Assessment](#) section provides a general overview of program needs in all nine enhancement areas. Based on the Phase I Assessment and initial stakeholder input, the Commission staff identified which of the nine enhancement areas were considered **high priority for future program improvements: Hazards, Public Access, Special Area Management Planning (SAMP/LCPs), Wetlands and Cumulative and Secondary Impacts**. This also reflects that for this cycle, OCM has designated "coastal hazards" as the enhancement area of national importance, to align with the "resilient coastal communities" emphasis in OCM's new strategic plan.²

¹ Program changes are defined by 15 CFR 923.123a. They include in summary: a change to the coastal zone boundary, new or revised authorities, new or revise local coastal programs and implementing ordinances, new or revised coastal land acquisition, management and restoration programs, new or revised special area management plans or plans for areas of special concern, new or revised guidance, procedures and policy documents that are formally adopted.

² NOAA, *Coastal Zone Management Act Section 309 Program Guidance 2016-2020 Enhancement Cycle*, June 2014, page 5.

The [Phase II Needs Assessment](#) focuses in more detail on these identified high priority enhancement areas and details the major gaps, needs and management priorities for the enhancement areas, according to the required Phase II template.

Then, the [309 Strategy](#) section of this report proposes two specific strategies to address high priority program gaps and needs that will guide future application for grant funds over the next 5 years, beginning with the FY2016 309 grant application. The proposed strategies are, in summary:

- **[Management Options to Protect Public Trust Lands and Resources \(Hazards and Public Access Enhancement Areas\)](#)**: To develop, in consultation with the State Lands Commission, an adaptive framework for how to assess and to protect public trust lands and resources and ensure continued access and recreation given projected impacts of sea level rise. This work plan will include development of a coordination plan with the State Lands Commission, and include analysis and potentially a pilot project that results in guidance for permits and updates to LCPs. The analysis may review current conditions and past regulatory actions, impacts and mitigation. It may identify risks to the public trust lands from rising sea levels and installation of seawalls and identify potential mitigation measures. This strategy will address Agency Strategic Plan Action item 3.1.7: Coordinate with the State Lands Commission to address sea level rise and shoreline change and implications for the management of public trust resources.
- **[Strengthen Technical Assistance for Local Coastal Program \(LCP\) Planning and Implementation \(SAMP/LCPs Enhancement Area\)](#)**: To develop a web-based guidance and training program to assist local governments in the development of new and updated Local Coastal Program (LCP) policies and ordinances that address priority enhancement areas, including policies and ordinances related to sea level rise (SLR) vulnerability/hazard assessment and SLR resiliency/adaptation strategies. The guidance will include suggested updated procedures to ensure more effective post LCP certification implementation. This strategy will address all or part of several Agency Strategic Plan items related to training and local assistance for LCP planning and post certification program improvements (4.2.3 Provide and update online guidance, 4.4.5 Increase training, 4.5.1 Evaluate post certification monitoring procedures, 4.5.3 guidance and training on post certification monitoring, 3.1.2 guidance for addressing coastal hazards, 3.1.3 Guidance for adaptation planning, and 3.1.4 Public information and guidance). This work plan will develop a web-based LCP guidance/information sharing tools and regional coordination /training programs for assisting local governments in updating their LCPs, and Post-certification monitoring and evaluation improvements.

The 309 Enhancement Grants Program has been an important asset to coastal management in California, providing crucial funding for analyzing problems and developing solutions to emerging coastal management issues. This 309 Assessment and Strategy has allowed the Commission to reflect upon its accomplishments, identify the state's coastal management needs, especially those of the 2013-2018 Agency Strategic Plan, and create an updated 309 5-year strategy to help to address these needs.

Table of Contents

Introduction	5
Background: Section 309 Enhancement Program	6
Developing the Assessment and Strategy.....	6
Section 309 Program Achievements 2010-2014.....	7
Summary of Stakeholder and Public Comments	11
PHASE I ASSESSMENT – ENHANCEMENT AREAS ANALYSIS	13
Wetlands.....	13
Coastal Hazards	20
Public Access.....	27
Marine Debris	36
Cumulative and Secondary Impacts	41
Special Area Management Planning.....	50
Ocean and Great Lakes Resources	55
Energy and Government Facility Siting	73
Aquaculture	78
PHASE II ASSESSMENT – PRIORITY AREAS	81
Wetlands.....	81
Coastal Hazards	93
Public Access.....	99
Cumulative and Secondary Impacts	109
Special Area Management Planning.....	118
STRATEGY	126
Strategy Overview	126
Strategy 1: Management Options to Protect Public Trust Lands and Resources.....	127
Strategy 2: Strengthening Technical Assistance for Local Coastal Program (LCP) Planning and Implementation	130
5-YEAR BUDGET SUMMARY BY STRATEGY	136
Appendix: Wetlands 1.....	137

Introduction

The Updated Assessment and Strategy examines progress made from 2010 through 2014 in achieving the coastal zone “enhancement objectives” specified in Section 309 of the Coastal Zone Management Act (CZMA) of 1990, as amended. It assesses the current ability of the California Coastal Management Program (CCMP) to make improvements in the specified enhancement areas. This document considers the portions of the CCMP administered by California Coastal Commission (Coastal Commission or the Commission) and applies only to the Pacific coast elements. The Bay Conservation and Development Commission (BCDC), which administers CCMP activities within San Francisco Bay, has its own Assessment and Strategy document. Both the Commission and BCDC consider work conducted by the State Coastal Conservancy (SCC) in their respective updates.

Section 309 of the CZMA established a grant program to encourage states to improve their coastal management programs in nine enhancement areas: 1) public access, 2) coastal hazards, 3) ocean resources, 4) wetlands, 5) cumulative and secondary impacts, 6) marine debris, 7) special area management planning, 8) energy and governmental facility siting, and, 9) aquaculture.

While the Section 309 Enhancement Program establishes nine enhancement areas, for this FY 2016-2020 assessment and strategy cycle, the federal Office for Coastal Management (OCM) has designated “coastal hazards” as the enhancement area of national importance. Designating areas of national importance helps to further focus Section 309 funding and demonstrate a national impact for the National Coastal Zone Management Program by aligning resources to address one or more critical coastal management issues across the county.

<p style="text-align: center;">2016 CCMP ASSESSMENT</p> <p style="text-align: center;"><i>High Priority Areas for Improvements</i></p> <ol style="list-style-type: none">1) Public Access2) Coastal Hazards (National Importance)3) Wetlands4) Cumulative & Secondary Impacts5) Special Area Management Planning (LCPs)
--

Within each area, states are required to update their last assessment of coastal resources and to document the coastal management program’s ability to manage those resources. For priority enhancement areas, the assessment identifies major gaps the state program faces in addressing the programmatic goal of each enhancement area. As documented in this 2016-2020 Assessment update, the Commission has identified five areas as high priority for program improvements and three specific strategies. The Commission will update its 309 Enhancement Strategy for fiscal years 2016 to 2020 to guide future application for, and use of, 309 Enhancement Grant funds. The 309 Strategy will also, at least for the first few years, align with the agency’s 2013-2018 Strategic Plan in the priority areas.

The Assessment and Strategy is organized according to June 2014 Guidance provided by the Office for Coastal Management (OCM), part of the National Oceanic and Atmospheric Administration (NOAA). The Assessment section begins by summarizing work performed to enhance the coastal management program since the 2010 report. Next, the enhancement area analysis documents the status of the CCMP in each area, discusses program needs, and establishes a priority for improvement of that area of the program. This document not only provides an accounting of the program achievements made since the

2010 Assessment and Strategy, it also gives the public an opportunity to comment on future needs of the state coastal program within the specified enhancement areas.

The final updated Assessment and Strategy will be the basis for targeting priority improvements to the CCMP in the future. The Assessment conforms to the required format and additional supporting documentation is provided in Appendices.

Background: Section 309 Enhancement Program

The Commission has participated in the 309 Enhancement Grant Program since its inception in 1992. At that time, three areas were identified as high priorities for improving the program: wetlands, coastal hazards, and cumulative and secondary impacts of development. The Coastal Commission's current enhancement program, updated in 1997, 2001, 2006, and 2010 added public access and special area management planning (SAMP), respectively, to that list of high priority areas. Local Coastal Programs (LCPs) are considered under the Special Area Management Plans enhancement area for purposes of the 309 program.

The need to update LCPs continues to be of paramount significance, especially to reflect emerging issues and responses to climate change and sea level rise. LCPs are one of the primary means through which the Coastal Act policies of the California coastal management program (CCMP) are implemented. Given limited resources it becomes important to develop guidance to improve the LCPs and to develop more efficient ways to share information and best practices, including greater use of technology. The need is growing as well to evaluate LCP and permit implementation in order to improve compliance with regulatory provisions. Encouraging local governments to update older LCPs is a key strategic goal of the Commission and enhancements under the prior 309 Strategy have contributed to progress in achieving LCP updates. New and updated LCPs that include new enforceable policies and ordinances to address impacts from sea level rise and incorporate climate adaptation measures are major program changes under the 309 program. The Commission is encouraging LCP completion and updates through the award of LCP planning grants in FY 13 and FY14 and potentially future LCP grants over the next three years.³ The LCPs and updates that result from these grants will also result in program changes.

Sea Level Rise/Hazard resiliency is critical also in areas of the Commissions continuing permit jurisdiction. Some of the emerging program needs include addressing the need to develop ways to protect the public access and recreation aspects of public trust lands that will be impacted by sea level rise. Therefore, the 309 Strategy will include a project to develop an adaptive framework for public trust lands.

Developing the Assessment and Strategy

The Assessment was developed using OCM's guidance document and template provided for reporting on the nine enhancement areas. For the initial assessment, Commission staff used the templates and information sources as directed in the Guidance template. For more detailed assessment in the priority enhancement areas, staff consulted additional information sources such as, measures developed under the Coastal Zone Management Act Performance Measurement System (CZMPMS), additional research of past Commission actions, interviews with various district and other staff members on activities and

³ <http://documents.coastal.ca.gov/reports/2015/2/w6a-2-2015.pdf> See attachment.

outcomes, information from partner agencies and public comments from stakeholder groups and others.

To develop the 309 Enhancement Strategies, Commission used the high priority enhancement areas identified through the Assessment and evaluated these areas as they related to on-going high priority needs of the Agency that have been previously identified and the Commission's agency Strategic Plan for 2013-2018.

Public review is a key piece of developing the Draft Assessment and Strategy and allows the public to see the results of the Commission's program enhancement efforts from 2010 through 2014. The Commission engaged a variety of stakeholders to help in the initial identification of Assessment priorities. Commission staff circulated, and made available through the agency website, an online survey which informed the assessment and selection of priority areas. In addition, the final draft Assessment and Strategy was available for review and comment through the Commission's website beginning in mid-June 2015 for 30 days. There was also an opportunity for the public to comment at the July 2015 Coastal Commission hearing.

Section 309 Program Achievements 2010-2014

Below is a summary of the significant program changes and improvements that have occurred in the past five years using Section 309 grant funds under the approved 309 2011-2015 Strategy. There is significant overlap among the past five high priority enhancement areas (cumulative impacts of development, coastal hazards, public access, special area management planning, and wetlands protection). In addition, the 309 enhancement program was used to leverage many other program enhancements, as noted below.

Cumulative Impacts, Coastal Hazards, Public Access & Wetland Protection

- Policy implementation was strengthened through improved evaluation. Commission staff completed development and reporting on all CZMA Performance Measurement System measures, including the final Phase III measures for Coastal Hazards, and Coastal-Dependent Uses and Community Development, by responding to comments by OCM on FY08-09 data reported. Staff also modified data collection and reporting methodologies for reporting years 2011-2015, based on OCM revised guidance. Staff helped to develop components of the Coastal Data Management System to facilitate this annual reporting and to better track key indicators of changes to public access and coastal resources.
- Commission staff compiled background information on the latest science regarding Sea Level Rise (SLR), including information and projections contained in the National Academy of Sciences study "Sea Level Rise for Coastal of California, Oregon and Washington."
- Commission staff completed the *California Coastal Commission Draft Sea Level Rise Policy Guidance* (SLR Guidance) document. This document provides an overview of the best available science on sea-level rise for California and recommended steps for addressing sea-level rise in Coastal Commission planning and regulatory actions. It will also provide guidance to local governments for update of LCPs. Staff conducted a 120-day public review period, and held two public Commission hearings. Staff is revising the draft to respond to all public comments and to

incorporate recommendations from the Natural Resources Agency 2014 report *Safeguarding California: Reducing Climate Risk*, which is an update of the State's 2009 Climate Adaptation Strategy. Commission staff has conducted extensive outreach to other state and local government agencies throughout the state. The final Sea Level Rise Policy Guidance document was adopted unanimously by the Coastal Commission August 2015. The SLR Guidance will also inform the development of additional policy guidance for climate change impacts other than sea level rise. Since 2010, at least 9 LCPs have been amended to include some improved sea level rise policies; however, these amendments do not comprehensively address sea level rise.

Special Area Management Planning, Public Access, Coastal Hazards & Wetland Protection

- Commission staff completed the *Final 309 Assessment & Strategy Report* which guided the Commissions applications for Section 309 grant projects for 2011-2015. The strategy section detailed 3 separate but complimentary strategies for: 1) Enhancing the LCP Program Implementation; 2) Improving Condition Compliance; and 3) Integrating Climate Change into Coastal Permitting and LCP Planning. These approved strategies were designed to result in program changes in five high priority enhancement areas: 1) Special Area Management Planning (aka LCP Planning); 2) Cumulative and Secondary Impacts; 3) Coastal Hazards; 4) Public Access; and 5) Wetlands.
- Staff revised the online *LCP Update Guide: Part I - Updating LCP Land Use Plan (LUP) Policies* (originally published 2007, updated in July 2013, with revisions posted September 2013). The revised LCP Update Guide provides Commission and local government staff with guidance for revising LCPs to reflect new information and changed conditions related to Coastal Act policy issue areas.
- Commission staff completed and posted the companion *LCP Update Guide: Part II - Updating LCP Implementation Plan (IP) Procedures* (in January 2011) which contains guidance on updating the procedural components of LCPs concerning permit and appeal procedures. Part II of the LCP Update Guide suggests ways for local government to keep zoning ordinances and implementation procedures current and responsive to changed circumstances and new issues.
- The Commission unanimously approved the agency-wide 5-Year Strategic Plan (for 2013-2018) with goals, objectives and corresponding actions to strengthen the agency's implementation of the Coastal Act. The Strategic Plan identifies seven priority goals: 1) maximizing public access and recreation; 2) protecting coastal resources; 3) addressing climate change through LCP planning, coastal permitting, interagency collaboration and public education; 4) strengthening the LCP program; 5) improving the regulatory process, compliance and enforcement; 6) enhancing the information management and e-government; and 7) building agency capacity. The plan is posted on the Commission's website at:
http://www.coastal.ca.gov/strategicplan/CCC_Final_StrategicPlan_2013-2018.pdf.
- The Commission staff completed a number of projects to enhance the LCP program through improved communication and mechanisms to **improve the efficiency and effectiveness of the LCP development and certification process**. These included:
 - 1) Established a Local Government Working Group of city and county officials to assist in implementing improvements to the LCP certification and amendment process, and participated in meetings with the League of California Cities (LOC) and the California State Association of Counties (CSAC) Coastal Groups.

- 2) Implemented a Local Government-Coastal Commission Workshop on Improving the LCP Process in coordination with the League of Cities (LOC) and the California State Association of Cities (CSAC).
 - 3) Implemented Workshop follow up actions which are resulting in increased early coordination to resolve policy conflicts and shorter processing times for LCP Amendments.
 - 4) Developed Procedural Guidance *TIPS/ BEST PRACTICES FOR PROCESSING LCP AMENDMENTS* at http://www.coastal.ca.gov/la/TipsLCPAmend_Nov2013.pdf
 - 5) Compiled resources to aid communication and dissemination of LCP policy guidance with District staff and also Coastal City and County Planning Directors.
 - 6) Completed the *“Report on Available LCP Planning & Implementation Guidance for Local Governments,”* which outlines measures to guide future local government technical assistance priorities.
 - 7) Developed and implemented new tools to improve information sharing, including: a staff survey, whose responses will inform how the Commission staff access policy and procedural guidance, and a new section of the Commission’s website for communicating policy information with local government and the public. The *“Recent Coastal Program Policy Briefings to the Commission”* website page hosts links to video presentations and reports on various Commission policy topics to provide information and training for local planners and general public.
- The Commission staff is completing a multi-phased project to enhance the LCP program through the **Digital LCP Project**. This included:
 - 1) Completed the *Phase I - Scoping and Needs Assessment Report*, which surveyed staff to assess the condition of existing LCP documents, identified challenges for transitioning from hard copy to electronic documents, and recommended measures needed to develop a digital LCP library.
 - 2) In Phase 2, conducted a pilot project to develop a digital LCP for the City of Capitola, which has over 70 digital files that make up its LCP. The pilot project identified some issues that need to be resolved between the approved as-certified LCP and the digital documents.
 - 3) Is completing the Procedural Guidance document *Digital LCP Library – Phase II – Procedures to Implement a Digital LCP Library*, which provides directions that will: create a centralized statewide repository that district staff, and eventually the public, can access to share best practices; facilitate access to the complete, up-to-date, as-certified LCP; establish requirements to assure continued maintenance of the certified documents as they are amended over time; and reflect existing staffing constraints by building the library as new and comprehensively updated LCP documents are submitted.
 - 4) Provided input to the design of the Commission’s new Coastal Data Management System (CDMS), including a new planning module for tracking LCP planning items, which will also provide agency staff with online access to digital LCP documents contained in the Digital LCP Library and eventually public access to the LCP Digital Library.
 - 5) Developed and implemented the file directory structure for the Digital LCP Library on a centralized computer server accessible to all staff, and has begun collecting up to 12

complete digital LCPs as part of Phase III of the Digital LCP Library project. So far, two complete as-certified digital LCPs (for the LA County – Santa Monica Mountains LCP, and City of Grover Beach LCP) have been compiled and updated to the Digital LCP Library, and three others are in progress (for City of Crescent City, City of Seaside, and City of Capitola).

Cumulative Impacts & Public Access

- **Procedural Guidance to Implement In Lieu Fee Mitigation.** The Commission staff completed a series of projects to improve compliance with mitigation requirements of coastal development permits where in lieu fees were required, especially regarding the provisions and protection of lower cost visitor accommodations pursuant to Coastal Act section 30213:
 - 1) The *“Administrative Draft: Procedural Guidance Document: Protecting and Providing Lower Cost Overnight Accommodations through Local Coastal Program Updates and Development Permits”* includes policy and procedural guidance for Commission regulatory actions and local government LCPs on addressing ways to protect and provide access to affordable overnight accommodations consistent with the Coastal Act.
 - 2) The *“Expanded Implementation of an In Lieu Fee Mitigation Program: Recommendations for Priorities and Implementation Strategy”* documented results of over \$10 million of Commission-required in lieu fees spent on mitigation that provides public access to lower cost overnight accommodations, and provides recommendations for allocating the remaining \$8.9 million in mitigation funds collected for lower cost visitor serving overnight accommodations.
 - 3) The *Preliminary Summary of Other In Lieu Fee Projects* inventoried other mitigation fees, finding that at least \$8.1 million required by Commission permits has funded various categories of mitigation projects other than lower cost visitor serving overnight accommodations (e.g., for public access and recreation, beach nourishment, transportation, habitat protection, agriculture, and affordable housing). This project collected data on about 150 projects in an expanded in lieu fee projects inventory database, helped transition the Commission to enhanced electronic tracking of in lieu fees, and built on past efforts to develop a more detailed inventory and reporting.

Program Enhancements Leveraged through the 309 Program.

The Commission staff implemented several projects contained in the past 309 Assessment and Strategy, but which were funded through other funding sources including the following:

- Negotiated acceptance by managing entities of 109 offers to dedicate (OTDs) open space easements to prevent the offers from expiring, ensuring the permanent protection of at least 1,094 acres of conservation and open space lands and associated coastal resources.
- Secured acceptance, by various managing entities, of 141 offers to dedicate public accessways or access easements to prevent the offers from expiring and to increase public access to the coast.
- Conducted two public workshops focusing on Lower-Cost Visitor Serving Accommodations in the Coastal Zone. The workshops, and accompanying staff reports, provided an overview of the issues related to protecting and providing lower-cost visitor serving overnight accommodations, including a summary of the Commission’s relevant actions and LCP policies.

- Published the fourth and final volume of the 4-volume regional guide series “Experience the California Coast.” Volume 4, published in 2012, covers Marin, San Francisco, San Mateo, Santa Cruz, and Monterey counties. Each volume of the regional guide series includes information on California’s coastal accessways, coastal parks, and natural and historical coastal resources.
- Published the seventh edition of the statewide “California Coastal Access Guide,” which includes coastal accessways in all 15 coastal counties. The new statewide access guide also includes features on coastal recreation and activities, such as visiting a lighthouse, looking for wildlife, camping near the shore, and enjoying recreation on the water, to name just a few.
- Linked information contained in the latest edition of the statewide guide, as well as data from each of the 4-volume regional guide series “Experience the California Coast,” to Commission data bases and GIS mapping for use in planning, regulatory and monitoring work.
- Completed final production of a publicly available mobile web application that can be used by anyone with a smart phone, or internet-connected computer, laptop, or tablet to access the digital inventory of coastal access sites. The mobile web application will allow users to identify sites within a user-defined distance, or search for site attributes that are of particular interest to the user.
- Completed the “*Public Access Report: Status of Vertical Accessways Acquired by California Coastal Commission Actions 1973 to 2011*” which reports the status of vertical accessways required by Coastal Commission permit actions in San Diego, Orange, Los Angeles, Santa Barbara, Ventura, and San Luis Obispo Counties. The report identifies that of the 111 vertical accessways acquired through Commission permit actions in these six counties, 67 (60%) have been opened. Commission staff continues to work on getting the remaining vertical accessways opened.

Summary of Stakeholder and Public Comments

Initial Stakeholder Survey

The Commission staff conducted an online survey of stakeholders to gather input about program priorities and needs. The survey was posted to the main Commission webpage and email notice was sent to over 500 interested stakeholders requesting participation. The staff received 110 responses to the survey. Of the 110 respondents, the majority identified themselves as representatives of local government (44%), followed by public interest/non-profit/NGO groups (20%).

The results of the survey identify LCPs, coastal hazards and public access as the most important priorities. Of all of the respondents: 28% ranked LCPs as the top priority; 25% ranked coastal hazards as the top priority; 21% ranked public access as the top priority; 15% ranked wetlands as the top priority; 8% ranked cumulative and secondary impacts of development; and 3% ranked ‘Other’ issues as their top priority. Of local government representatives, a large majority of 46% ranked LCPs as the top priority, 22% ranked coastal hazards as the top priority, 18% ranked public access as the top priority, and 10% ranked wetlands as the top priority.

With regard to LCPs, respondents expressed concern about the need to update outdated LCPs with limited resources, and indicated a need for continued and enhanced grant funding and technical

assistance to aid in completion of LCP updates. Respondents also indicated a need for increased cooperation between the Commission and local governments to help the LCP process move more smoothly. Some respondents indicated a desire for model LCP language, while others wanted there to be more recognition of the unique nature of each local jurisdiction and more flexibility in the types of LCP policies that might be needed to address that uniqueness.

Some respondents expressed appreciation for the Commission's coordination efforts, while others indicated a need for enhanced coordination and collaboration. Local government respondents voiced concerns about too much state control over local programs and also expressed a need for additional Commission staff capacity (including in level of expertise and familiarity with local issues).

With regard to hazards, numerous respondents (at least 25) focused on the importance of sea level rise as the most pressing issue facing the Commission. There was also significant interest in additional guidance regarding adaptation and managed retreat. Several respondents were seeking clarity or more consistency between hazard mapping of FEMA and the Commission. In addition, at least one respondent identified the need for public education related to sea level rise.

With regard to wetlands, respondents were on both sides of the spectrum, with some indicating that wetlands protections are not adequate to protect the resources, and others indicating the wetlands protections have gone too far, to the detriment of public access and other development. Respondents indicated a need for additional wetlands mapping and clarity on how wetlands are delineated.

Several unique ideas and emerging issues were raised by respondents. One respondent raised the need to address sustainability issues related to parking requirements for public access. The Commission has generally protected parking as a way to ensure the public's ability to access the coast. However, too much reliance on automobile parking is at odds with smart growth principles and the need to reduce greenhouse gases. This conflict could be addressed through future LCP amendments and updates. Another respondent raised the issue of beach nourishment impacts related to surfing impacts and the use of sand that has a different grain size than the native sand. As sea level rises and beach erosion is exacerbated, additional beach nourishment projects will likely be a short term strategy necessary to protect some beaches, and these issues will need to be addressed to ensure projects are consistent with the Coastal Act. Finally, one respondent identified the need to distinguish between rural and urban areas when considering shoreline erosion issues related to sea level rise, and also suggested studying European countries that have relied on shoreline protection for centuries (such as Turkey, Greece and Italy). Such an analysis may identify relevant lessons learned for use in California.

Public Comment

The Commission staff provided a 30-day public comment period on the Draft 2016 Updated Assessment and Strategy concurrent with OCM review starting in mid-June. There was also a public notice about the availability of the document as part of the regular Commission July meeting agenda. Staff presented the Draft 2016 Updated Assessment and Strategy to the Commission at the July 2015 hearing. This provided the opportunity for Commissioners to provide feedback and for the public to comment on the Draft document. The Draft 2016 Assessment and Strategy was also posted on the Commission's website.

The Commission received no public comments on the Draft Assessment and Strategy.

PHASE I ASSESSMENT – ENHANCEMENT AREAS ANALYSIS

The Phase I (High Level) Assessment section provides a general overview of program needs in all nine enhancement areas using the Phase I assessment templates provided by OCM in the Section 309 Program Guidance. Using responses to the Phase I assessment questions, key stakeholder input, and staff knowledge of the issue, the enhancement areas are ranked as a high, medium, or low priority for the program. For enhancement areas ranked a high priority, the Commission continues the assessment by completing an in-depth Phase II assessment. Based on the Phase I Assessment and initial stakeholder input, the Commission staff identified which of the nine enhancement areas were considered **high priority for future program improvements: Hazards, Public Access, Special Area Management Planning (SAMP/LCPs), Wetlands and Cumulative and Secondary Impacts**. This also reflects that for this cycle, OCM has designated “coastal hazards” as the enhancement area of national importance, to align with the “resilient coastal communities” emphasis in OCM’s new strategic plan

WETLANDS

Section 309 Enhancement Objective: Protection, restoration, or enhancement of the existing coastal wetlands base, or creation of new coastal wetlands. §309(a) (1)

Note: For the purposes of the Wetlands Assessment, wetlands are “those areas that are inundated or saturated at a frequency and duration sufficient to support, and that under normal circumstances do support, a prevalence of vegetation typically adapted for life in saturated soil conditions.” [33 CFR 328.3(b)]. See also pg. 17 of the CZMA Performance Measurement Guidance⁴ for a more in-depth discussion of what should be considered a wetland.

Resource Characterization:

1. Using provided reports from NOAA’s Land Cover Atlas⁵ or high-resolution C-CAP data⁶ (Pacific and Caribbean Islands only), please indicate the extent, status, and trends of wetlands in the state’s coastal counties. You can provide additional or alternative information or use graphs or other visuals to help illustrate or replace the table entirely if better data are available.
- 2.

Coastal Wetlands Status and Trends ⁷		
Current state of wetlands in 2011 (acres)	377,609.4 acres	
Percent net change in total wetlands (% gained or lost)*	from 1996-2011	from 2006-2011
	-0.05%	-1.33%

⁴ <http://coastalmanagement.noaa.gov/backmatter/media/czmapmsguide11.pdf>

⁵ <http://www.csc.noaa.gov/ccpatlas/>. Summary reports compiling each state’s coastal county data are provided on the ftp site.

⁶ <http://www.csc.noaa.gov/digitalcoast/data/ccaphighres>

⁷ Note: All figures are based on county-wide data totals. Figures for Coastal Zone only would be different

Coastal Wetlands Status and Trends ⁷		
Percent net change in freshwater (palustrine wetlands) (% gained or lost)*	from 1996-2011	from 2006-2011
	-0.01%	-0.88%
Percent net change in saltwater (estuarine) wetlands (% gained or lost)*	from 1996-2011	from 2006-2011
	-5.12%	0.90%

How Wetlands Are Changing		
Land Cover Type	Area of Wetlands Transformed to Another Type of Land Cover between 1996-2011 (Sq. Miles)	Area of Wetlands Transformed to Another Type of Land Cover between 2006-2011 (Sq. Miles)
Development	4.10 sq. mi.	0.24 sq. mi.
Agriculture	2.37 sq. mi.	0.23 sq. mi.
Barren Land	2.68 sq. mi.	0.20 sq. mi.
Water	4.99 sq. mi.	1.07 sq. mi.

Note: All figures are based on county-wide data totals. Figures for Coastal Zone only would be different.

3. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of coastal wetlands since the last assessment to augment the national data sets.

The California Coastal Commission collects data about the amount of wetlands gained or lost from regulatory actions taken by the Coastal Commission within the coastal zone. Measures include total gains/losses of tidal wetland habitat, beach/dune habitat, nearshore habitat (intertidal, subtidal, submerged), non-tidal wetland habitat, riparian habitat, and terrestrial habitat. This data is reported to OCM. The data reported in 2014 is attached at the end of this report ([Appendix: Wetlands 1](#)).

Management Characterization:

1. Indicate if there have been any significant changes at the state or territory level (positive or negative) that could impact the future protection, restoration, enhancement, or creation of coastal wetlands since the last assessment.

Management Category	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	N
Wetlands programs (e.g., regulatory, mitigation, restoration, acquisition)	Y

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
 - a. Describe the significance of the changes;

- b. Specify if they were 309 or other CZM-driven changes; and
- c. Characterize the outcomes or likely future outcomes of the changes.

California Eelgrass Mitigation Policy

a. Significance: In 2011, the National Marine Fisheries Service West Coast Region released a Draft California Eelgrass Mitigation Policy. The intent of this document is to “help ensure consistent, effective, and appropriate mitigation of unavoidable impacts to eelgrass habitat throughout California.” It contains a “clear and transparent process for developing eelgrass mitigation recommendations” for both agencies and the public. Specifically, the document includes detailed descriptions of the types of development-related impacts that could influence eelgrass, eelgrass survey methods, and mitigation and monitoring methods. Recommendations are geographically specific and include a high level of detail regarding the timing of each effort described. The document is widely used for regulatory purposes, especially when conditioning permitted development in California coastal waters. In October 2014, the final version of the Eelgrass Mitigation Policy was released. This document includes a clear policy statement, “It is NMFS’ policy to recommend no net loss of eelgrass habitat function in California,” along with other minor updates. This document, upon adoption, supersedes the Southern California Eelgrass Mitigation Policy, which was adopted in 1991.

b. Is this program 309 or CZM driven: No.

c. Likely future outcomes: Consistent and improved approach for avoiding and minimizing impacts to eelgrass and mitigating eelgrass impacts that do occur, which can be employed across regulatory agencies in California.

Draft Water Quality Control Policy for Wetland Area Protection and Dredged or Fill Permitting

a. Significance: On January 28, 2013, the California State Water Resources Control Board released a [Preliminary Draft of a WATER QUALITY CONTROL POLICY For Wetland Area Protection and Dredged or fill Permitting](#). The Policy includes four elements: (1) a wetland definition; (2) a wetland delineation method; (3) a wetland assessment and monitoring framework; and (4) authorization procedures for dredge and fill discharges to waters of the state. The document is part of the state’s significant, on-going efforts to carry out Governor Pete Wilson’s 1993 Executive Order W-59-93, commonly known as the state’s “No-Net-Loss Policy” for California wetlands. The document emphasizes a watershed approach to wetlands management; a uniform regulatory approach consistent with the federal Clean Water Act section 404 program for the discharge of dredged or fill material into the coastal waters, including wetlands; a common framework for wetland monitoring and assessment that will inform regulatory decisions and ensure consistency with statewide environmental reporting programs; and support for other agencies’ and groups’ wetland-related efforts.

b. 309 or CZM driven: No.

c. Likely future outcomes: Increased consistency in regulatory approaches, consistent with the section 404 program for discharge of dredged or fill material into wetlands.

State of California Five Year Coordinated Work Plan for Wetlands Conservation Program Development

a. Significance: In March 2014, the Department of Fish and Wildlife, the Sacramento-San Joaquin Delta Conservancy, the Coastal Conservancy, and the State Water Resources Control Board (State Water Board) released a revised State of California Five Year Coordinated Work Plan for Wetlands Conservation Program Development to carry out each agency's directives regarding wetland conservation program development. The overall goal statement directing and driving the document is to "increase the abundance and diversity of California's wetlands and riparian areas, and to sustain and enhance the delivery of ecosystem services." The document describes each agency's respective mandates and authorities regarding wetlands conservation and management and how they are related. It also includes a detailed matrix listing action items, products, and due dates for each agency, all of which are consistent with the Wetland and Riparian Area Monitoring Plan (WRAMP), which was developed by the California Wetlands Monitoring Workgroup and endorsed by the California Water Quality Monitoring Council in June 2010.

b. 309 or CZM driven: Yes, in that the State Coastal Conservancy is one of the participating agencies.

c. Likely future outcomes: Better coordination between agencies working on wetland conservation, and the accomplishment of identified milestones and deliverables.

Southern California Wetlands Recovery Project 2012 grants

a. Significance: The Southern California Wetlands Recovery Project (SCWRP) was established in 1997 as a partnership between 14 federal and state entities. The SCWRP is chaired by the Resources Agency and supported by the State Coastal Conservancy, and partners include public agencies, non-profits, scientists, and local communities. The organization's overall goal is to acquire, restore, and expand rivers, streams, and wetlands in coastal Southern California using a regional approach. The SCWRP offers a Community Wetland Restoration Grant Program (CWRGP) to fund community-based restoration projects, the most recent of which was in 2012, and also creates a Work Plan with larger acquisition, restoration, and enhancement projects, which was last updated in November 2013 with new funded projects. According to the 2013 Work Plan Report, "Over the past 14 years more than \$628 million dollars has been spent on the 94 completed Work Plan projects. This includes \$2,500,000 spent on 112 CWRGP projects. The State of California has contributed more than half of that funding."

b. 309 or CZM driven: Yes, the State Coastal Conservancy and California Coastal Commission are on the SCWRP Board of Governors.

c. Likely future outcomes. Continued funding for and accomplishment of wetland acquisition, restoration, and enhancement in Southern California, motivated by a regional, ecosystem-based management approach.

California State Coastal Conservancy Southern California bight-wide in-lieu fee program for wetland mitigation

a. Significance: In April 2012, the Southern California Wetlands Recovery Project (SCWRP) Board of Governors directed the Wetland Managers Group to develop an in-lieu fee program for wetland mitigation in the Southern California bight. This program would allow the aggregation of mitigation

funds to implement regionally important projects rather than focusing on small acre-by-acre projects. The Coastal Conservancy, as a representative and fiscal agent for SCWRP, released a draft program prospectus in April 2013 consistent with regulations issued by the Army Corps of Engineers (ACOE) and EPA that govern compensatory mitigation for activities authorized by ACOE permits (published in the Federal Register in April 2008). The Coastal Conservancy has also reached out to state and local agencies, including the California Coastal Commission, for guidance in developing the in-lieu fee program so that it is sufficiently broad to meet the mitigation needs of agencies other than the ACOE. The final program is still under development.

b. 309 or CZM driven: Yes, in that the State Coastal Conservancy and California Coastal Commission are on the SCWRP Board of Governors. Also, the State Coastal Conservancy would act as the fiscal sponsor for the program.

c. Likely future outcomes: Aggregated mitigation funds to implement regionally important projects rather than small acre-by-acre mitigation projects.

Temporal Investigations of Marsh Ecosystems (TIME)

a. Significance: The [Temporal Investigations of Marsh Ecosystems \(TIME\)](#) project is an effort led by the Tijuana River National Estuarine Research Reserve (TRNERR) and spurred by the expressed needs of the Southern California Wetlands Recovery Project (WRP) and the Tijuana River Valley Recovery Team (TRVRT). The goal of the TIME project is to steer restoration and management goals by providing detailed information and tools regarding the past, present, and future of wetland ecosystems. The project will produce maps of past and current wetland distribution and ecological functions, and future conditions will be addressed by projecting the future ecological and social impacts of climate change. The project team consists of the California State Coastal Conservancy, San Francisco Estuary Institute, Southern California Coastal Water Research Project, Sacramento State University Center for Collaborative Policy, and TRNERR with input and guidance from the primary users, the WRP and TRVRT.

b. 309 or CZM driven: Yes, the California State Coastal Conservancy is a member of the project team.

c. Likely future outcomes: Improved historical, current, and projected wetland extents will help steer restoration projects and management goals.

Bar-Built Estuary Monitoring and Resource Management Prioritization Tool for California State Parks

a. Significance: In 2014, the Central Coast Wetlands Group received a USEPA grant to build a habitat restoration and management prioritization tool for bar-built estuaries. Collaborators on the project include the Central Coast Wetlands Group, Southern California Wetlands Recovery Project, California State Parks, the Delta Conservancy, and the Department of Water Resources. The tool will be specifically built for use by California State Parks, since the agency manages nearly half of the bar-built estuaries in California. The project will advance the standardization of data collection techniques in bar-built estuaries and produce a georeferenced database of resources related to bar-built estuaries.

b. 309 or CZM driven: No.

c. Likely future outcomes: The tool is expected to inform how watershed and/or local actions will increase habitat function within bar-built estuaries and direct management decisions.

Santa Rosa Plain Wetlands Profile: A Demonstration of the California Wetland and Riparian Area Monitoring Plan (WRAMP)

a. Significance: WRAMP is a framework for assembling information to protect, design, manage, and assess wetlands and other surface waters. In 2013-2014, the San Francisco Estuary Institute and Aquatic Science Center applied WRAMP to the Santa Rosa Plain in an effort to demonstrate WRAMP’s utility. The basic question answered by the study was, “What are the abundance, diversity, and conditions of wetlands in the Santa Rosa Plain?” and the results of the study suggested that protection of the Plain should take a watershed approach, and that the California Rapid Assessment Method (CRAM) can be used to design a restoration and mitigation plan. Tools within WRAMP are designed for 401 Certifications, other user-defined areas, and educational outreach.

b. 309 or CZM driven: No.

c. Likely future outcomes: The project predicts that WRAMP can help establish stronger public support for the care and protection of the state’s aquatic resources. However, WRAMP and CRAM may not be fully transferable to the coastal zone because they do not provide the quantitative assessment necessary for assessing environmental impacts or mitigation success.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	<u> X </u>
Medium	<u> </u>
Low	<u> </u>

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Wetland protection is integral to the California Coastal Commission program, and the California Coastal Act contains specific policies aimed at maintaining the biological productivity of wetlands and limiting certain types of activities and development within them. Reflective of these facts, the 2013 Coastal Commission Strategic Plan includes specific objectives and action related to wetlands. This plan was developed with extensive public input over a 40-day comment period during which the Commission staff received 28 letters from various local governments, nonprofit organizations, and members of the public. Specifically, the Strategic Plan includes Objective 2.1: Strengthen Implementation of Coastal Act ESHA and Wetland Policies with Updated Policy Guidance, and related actions, including:

2.1.1 Develop a coastal habitats compendium that includes habitat characterizations and a summary of related planning and regulatory issues to support review of coastal development permit applications and LCP amendments by local governments and the Commission.

2.1.2 Collaborate with state and federal partners such as DFW and USFWS to improve understanding and implementation of best methods for avoiding and mitigating impacts to sensitive habitats.

2.1.3 Review and update as necessary policy guidance for coastal permitting and revising LCPs to address changed circumstances (ESHA definition and identification), habitat mapping, buffer and mitigation policies and emerging issues (e.g. bird safe buildings, beach grooming, fuel modification, native plant landscaping), to protect, enhance, and restore sensitive habitats.

2.1.4 Provide guidance on wetland identification, delineation, protection, enhancement, restoration and mitigation in the coastal zone for use by project applicants and local government.

2.1.5 Provide guidance to staff and local planners to facilitate projects that propose to enhance or restore coastal resources.

2.1.6 In cooperation with other agencies, nonprofits, and local governments, direct mitigation monies to identified habitat areas in need of restoration and protection.

This was one of the top four priority areas identified by initial stakeholder survey and a need for additional wetland mapping and clarity on how wetlands are delineated was identified as a priority need.

COASTAL HAZARDS

Section 309 Enhancement Objective: Prevent or significantly reduce threats to life and property by eliminating development and redevelopment in high-hazard areas, managing development in other hazard areas, and anticipating and managing the effects of potential sea level rise and Great Lakes level change. §309(a) (2)

Note: For purposes of the Hazards Assessment, coastal hazards include the following traditional hazards and those identified in the CZMA: flooding; coastal storms (including associated storm surge); geological hazards (e.g., tsunamis, earthquakes); shoreline erosion (including bluff and dune erosion); sea level rise; Great Lake level change; land subsidence; and saltwater intrusion.

Resource Characterization:

1. **Flooding:** Using data from NOAA’s *State of the Coast* “Population in the Floodplain” viewer⁸ and summarized by coastal county through NOAA’s Coastal County Snapshots for Flood Exposure,⁹ indicate how many people were located within the state’s coastal floodplain as of 2010 and how that has changed since 2000. You may to use other information or graphs or other visuals to help illustrate.

Population in the Coastal Floodplain			
	2000	2010	Percent Change from 2000-2010
No. of people in coastal floodplain ¹⁰	1,033,499	1,104,963	6.91%
No. of people in coastal counties ¹¹	24,260,090	25,345,252	4.47%
Percentage of people in coastal counties in coastal floodplain	4.26%	4.36%	-----

Note that the recommended data sources include counties along San Francisco Bay (Napa, Solano, Contra Costa, Alameda, and Santa Clara) as “coastal” counties, although these counties are outside of the CA Coastal Commission’s jurisdiction. County-specific information on floodplain population does not seem to be available for the year 2000, but such information for 2010 suggests that there are proportionally fewer people in the floodplain when the SF Bay counties are excluded from the analysis (3.70% compared to 4.36%, see added table below).

⁸ <http://stateofthecoast.noaa.gov/pop100yr/welcome.html>. Note FEMA is in the process of updating the floodplain data. This viewer reflects floodplains as of 2010. If you know the floodplain for your state has been revised since 2010, you can either use data for your new boundary, if available, or include a short narrative acknowledging the floodplain has changed and generally characterizing how it has changed.

⁹ www.csc.noaa.gov/digitalcoast/tools/snapshots

¹⁰ To obtain exact population numbers for the coastal floodplain, download the Excel data file on the State of the Coast “Population in the Floodplain” viewer: <http://stateofthecoast.noaa.gov/pop100yr/welcome.html>. Summary population data for each coastal state is available on the ftp site.

¹¹ To obtain population numbers for coastal counties, see spreadsheet of coastal population and critical facilities data provided or download directly from <http://www.csc.noaa.gov/digitalcoast/data/stics>. Summary population data for each coastal state is available on the ftp site.

Population	2000		2010	
	Total ^c	Floodplain	Total ^a	Floodplain ^a
Del Norte	27,507	Not available	28,610	3,857
Humboldt	126,518	//	134,623	17,920
Mendocino	86,256	//	87,841	8,559
Sonoma	458,614	//	483,878	20,230
Marin	247,289	//	252,409	41,707
San Francisco	776,733	//	805,235	16,812
San Mateo	707,161	//	718,451	49,122
Santa Cruz	255,602	//	262,382	30,232
Monterey	401,762	//	415,057	24,418
San Luis Obispo	246,681	//	269,637	21,497
Santa Barbara	399,347	//	423,895	33,201
Ventura	753,197	//	823,318	66,965
Los Angeles	9,519,338	//	9,605,605	135,681
Orange	2,846,289	//	3,232,232	177,977
San Diego	2,813,833	//	3,313,313	124,384
<i>CCC Jurisdiction Subtotal</i>	19,666,127	//	20,856,486	772,562
% of pop. in floodplain:		N/A		3.70%
Napa	124,279	//	136,484	15,659
Solano	394,542	//	413,344	42,597
Contra Costa	948,816	//	1,025,025	63,815
Alameda	1,443,741	//	1,271,271	53,652
Santa Clara	1,682,585	//	1,642,642	156,384
<i>Total "Coastal County" Population</i>	24,260,090	1,033,499 ^b	25,345,252	1,104,963 ^b
% of total pop. in floodplain:		4.26%		4.36%
Total Pop. 2000	24,260,090 ^c		Flood. Pop. 2000	1,033,499 ^b
Total Pop. 2010	25,345,252 ^a		Flood. Pop. 2010	1,104,963 ^b
% Chg 2000-2010	4.47%		% Chg 2000-2010	6.91%
Data Sources				
^a Data from County Snapshots				
^b Data from NOAA SOTC Floodplain Pop				
^c Data from US Census Bureau				

2. **Shoreline Erosion** (for all states other than Great Lakes and islands; for Great Lakes and islands, see Question 5): Using data from NOAA’s *State of the Coast* “Coastal Vulnerability Index,”¹² indicate the vulnerability of the state’s shoreline to erosion. You may use other information or graphs or other visuals to help illustrate or replace the table entirely if better data is available. *Note: For New York and Pennsylvania that have both Atlantic and Great Lakes shorelines, fill out the table below for the Atlantic shoreline only.*

Vulnerability to Shoreline Erosion		
Vulnerability Ranking	Miles of Shoreline Vulnerable ¹¹	Percent of Coastline ¹³
Very low (>2.0m/yr accretion)	54	3%
Low (1.0-2.0 m/yr accretion)	128	8%
Moderate (-1.0 to 1.0 m/yr) stable	1375	88%
High (-1.1 to -2.0 m/yr) erosion		
Very high (>-2.0 m/yr) erosion		

3. **Sea Level Rise** (for all states other than Great Lakes and islands; for Great Lakes and islands, see Question 5): Using data from NOAA’s *State of the Coast* “Coastal Vulnerability Index,”¹⁴ indicate the vulnerability of the state’s shoreline to sea level rise. You may provide other information or use graphs or other visuals to help illustrate or replace table entirely if better data is available. *Note: For New York and Pennsylvania that have both Atlantic and Great Lakes shorelines, fill out the table below for your Atlantic shoreline only.*

Coastal Vulnerability to Historic Sea Level Rise		
Vulnerability Ranking	Miles of Shoreline Vulnerable ¹¹	Percent of Coastline
Very low		
Low	398	25%
Moderate	1,007	64%
High	152	9%
Very high		

4. **Other Coastal Hazards:** In the table below, indicate the general level of risk in the coastal zone for each of the coastal hazards. The state’s multi-hazard mitigation plan is a good additional resource to support these responses. The type of hazard and the General Level of Risk is based on Commission technical staff assessment. Additional sources are cited in footnotes where applicable.

¹² <http://stateofthecoast.noaa.gov/vulnerability/welcome.html> (see specifically “Erosion Rate” drop-down on map). The State of the Coast visually displays the data from USGS’s Coastal Vulnerability Index.

¹³ To obtain exact shoreline miles and percent of coastline, mouse over the colored bar for each level of risk or download the Excel data file.

¹⁴ <http://stateofthecoast.noaa.gov/vulnerability/welcome.html> (see “Vulnerability Index Rating” drop-down on map). The State of the Coast visually displays the data from USGS’s Coastal Vulnerability Index.

Type of Hazard	General Level of Risk ¹⁵ (H, M, L)
Flooding (riverine, stormwater)	M
Coastal storms (including storm surge) ¹⁶	M
Geological hazards (e.g., tsunamis, earthquakes)	H
Shoreline erosion ¹⁷	H
Sea level rise ^{13,14,15}	H
Great Lake level change ¹⁴	N/A
Land subsidence	L (though there are spots with higher risk)
Saltwater intrusion	H
Other (please specify)	Fire (+ subsequent mass wasting) - H

5. If available, briefly list and summarize the results of any additional data or reports on the level of risk and vulnerability to coastal hazards within your state since the last assessment. The state’s multi-hazard mitigation plan or climate change risk assessment or plan may be a good resource to help respond to this question.

See discussion of reports under 3a Management Characterization

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred that could impact the CMP’s ability to prevent or significantly reduce coastal hazards risk since the last assessment.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these that address:			
<i>elimination of development/redevelopment in high-hazard areas¹⁸</i>	Y*	Y	N
<i>management of development/redevelopment in other hazard areas</i>	Y*	Y	N
<i>climate change impacts, including sea level rise or Great Lake level change</i>	Y*	Y	Y
Hazards planning programs or initiatives that address:			
<i>hazard mitigation</i>	Y	Y	N

¹⁵ Risk is defined as “the estimated impact that a hazard would have on people, services, facilities and structures in a community; the likelihood of a hazard event resulting in an adverse condition that causes injury or damage.” *Understanding Your Risks: Identifying Hazards and Estimating Losses. FEMA 386-2. August 2001*

¹⁶ In addition to any state- or territory-specific information that may help respond to this question, the U.S. Global Change Research Program has an interactive website that provides key findings from the 2014 National Climate Assessment for each region of the country, including regions for the coasts and oceans, and various sectors. The report includes findings related to coastal storms and sea level rise that may be helpful in determining the general level of risk. See <http://nca2014.globalchange.gov/>.

¹⁷ See NOAA State of the Coastal Vulnerability to Sea Level Rise Tool (select “Erosion Rate” from drop-down box) <http://stateofthecoast.noaa.gov/vulnerability/welcome.html>. The State of the Coast visually displays the data from USGS’s Coastal Vulnerability Index.

¹⁸ Use state’s definition of high-hazard areas.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
<i>climate change impacts, including sea level rise or Great Lake level change</i>	Y	Y	N
Hazards mapping or modeling programs or initiatives for:			
<i>sea level rise or Great Lake level change</i>	N	Y	N
<i>other hazards</i>	N	Y	N

**Many of these management topics are addressed on a case-by-case basis through Local Coastal Programs. The Coastal Commission provides technical and planning assistance for the development of these LCPs (and supports each of these topics/policies etc.), and is currently hosting the 2nd round of a grant program (funding from the Governor/legislature) to support LCP updates (particularly updates that include climate change adaptation).*

2. Briefly state how “high-hazard areas” are defined in your coastal zone.

“High-hazard areas” aren’t specifically defined for the entire coastal zone, but are rather identified on an individual basis in Local Coastal Programs based on the particular hazards present (e.g. seismic, fire, flood, sea level rise, storms, wave run-up, tsunamis etc.)

3. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:

- a. Describe the significance of the changes;
- b. Specify if they were 309 or other CZM-driven changes; and
- c. Characterize the outcomes or likely future outcomes of the changes.

a. **Significance.** Several recent reports have resulted in significant changes to the emphasis placed on climate change and sea level rise policy in California. The key reports are the California Department of Natural Resources’ 2014 Safeguarding California Plan, the Ocean Protection Council’s Sea Level Rise Guidance and the California Coastal Commission’s Draft Sea Level Rise Policy Guidance. These three reports all helped to bring attention to the potential consequences of climate change and sea level rise and to identify general and specific strategies and actions that the state will take to address these concerns.

b. **OCM Driven Change.** The California Coastal Commission’s Draft Sea Level Rise Policy Guidance was the only one of the three that was a 309 driven change; however, the Coastal Commission, the SF Bay Conservation and Development Commission and the California Coastal Conservancy were contributors and reviewers of both the Safeguarding California Plan and the Ocean Protection Council’s Sea Level Rise Guidance.

c. **Expected outcomes** are that existing and future development will be undertaken with greater awareness of potential impacts resulting from climate change and sea level rise and that avoidance of sea-level rise related hazards will become more important for the siting or permitting of new development, the innovative design of new structures/ infrastructure, when necessary, in vulnerable areas, and the integration of climate risk considerations into emergency management activities.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	<u> X </u>
Medium	<u> </u>
Low	<u> </u>

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Climate change has been identified as one of the most critical environmental issues for the 21st century and the need to continually update information, such as information in the 2010 Assessment is essential. There is a great deal of uncertainty about the likely impacts for climate change and many communities feel too overwhelmed to undertake climate change planning. Demonstration of some of the planning options, through pilot studies and development of baseline, state-wide projections of impacts and guidance for developing updated LCPs will be important elements of such planning and outreach efforts.

Addressing hazards management, especially with regard to adapting to the impacts of climate change, is a key element of the Agency's 2013-2018 Strategy Plan. Goal 3 of that Strategy is to Address Climate Change through LCP Planning, Coastal Permitting, Inter-Agency Collaboration and Public Education. Following release and adoption of the agency's general Sea Level Rise Guidance, additional actions will be needed to develop specific guidance for permitting and planning such as the following:

- 3.1.1 Based on the general SLR policy guidance, identify and develop specific regulatory guidance for addressing coastal hazards, including recommendations for analytic methods for accounting for SLR and increased storm events in project analysis, standards for redevelopment and development in hazard zones (e.g. bluff top and flood zones), buffers for coastal wetlands, and policies for shoreline structure design and impact mitigation.
- 3.1.2 Develop work program to produce policy guidance for coastal permitting and LCPs to account for other climate change related impacts and adaptation planning including wetland, marine and terrestrial habitat protection, habitat migration, risk of wildfires, water supply and groundwater protection, etc.
- 3.1.3 Provide public information and guidance through workshops, presentations to local government, etc. Assist local governments with interpretation of scientific or other technical information related to climate change and sea level rise that could be of use in adaptation planning.
- 3.1.4 Contribute to relevant state-wide efforts on climate change and adaptation as a member of the State's Climate Action Team – Coast and Ocean Working Group.
- 3.1.5 Coordinate with the Natural Resources Agency, Office of Planning and Research, California Emergency Management Agency and others to provide consistent guidance on climate change

in updating general plans, hazard mitigation plans and other planning documents used by local governments.

- 3.1.6 Coordinate with the State Lands Commission to address sea level rise and shoreline change and implications for the management of public trust resources.

Stakeholder input reinforced the importance of this issue by ranking it one of the top two priority areas and numerous respondents focused on the importance of sea level rise as the most pressing issue facing the Commission. A need was identified for additional guidance regarding adaptation and managed retreat.

A Section 309 Strategy will be an important part of implementing these program improvements and in enhancing the knowledge and capacity of our local government partners through updated LCPs.

PUBLIC ACCESS

Section 309 Enhancement Objective: Attain increased opportunities for public access, taking into account current and future public access needs, to coastal areas of recreational, historical, aesthetic, ecological, or cultural value. §309(a) (3)

Resource Characterization:

1. Use the table below to provide data on public access availability within the coastal zone.

Public Access Status and Trends			
Type of Access	Current number	Changes or Trends Since Last Assessment (↑, ↓, -, unkwn)	Cite data source
Beach access sites	Current total number of sites is 1429	In the 2010 Assessment and Strategy, there were a total of 882 beach access sites. Therefore, a total of 587 new sites have been added since 2010.	CCC's Public Access Inventory baseline which compiled the data contained in the: Commission's Coastal Access Guide (2014) and four regional guides: Experience the California Coast – Beaches and Parks in Northern California (2005), Experience the California Coast – Beaches and Parks from San Francisco to Monterey (2012), Experience the California Coast – Beaches and Parks from Monterey to Ventura (2007), and Experience the California Coast – Beaches and Parks in Southern California (2009).
Shoreline (other than beach) access sites	Current total number of sites is 793	In the 2010 Assessment and Strategy, this question was included within "beach access sites" so therefore nothing to report in this column.	CCC's Public Access Inventory baseline which compiled the data contained in the: Commission's Coastal Access Guide (2014) and four regional guides: Experience the California Coast – Beaches and Parks in Northern California (2005), Experience the California Coast – Beaches and Parks from San Francisco to Monterey (2012), Experience the California Coast – Beaches and Parks from Monterey to Ventura (2007), and Experience the California Coast – Beaches and Parks in Southern California (2009).

Public Access Status and Trends			
Type of Access	Current number	Changes or Trends Since Last Assessment (↑, ↓, -, unkwn)	Cite data source
Recreational boat (power or nonmotorized) access sites	Current total number of sites is 227	In the 2010 Assessment and Strategy, there were a total of 149 boating access sites. Therefore, a total of 76 new boating sites have been added since 2010.	CCC's Public Access Inventory baseline which compiled the data contained in the: Commission's Coastal Access Guide (2014) and four regional guides: Experience the California Coast – Beaches and Parks in Northern California (2005), Experience the California Coast – Beaches and Parks from San Francisco to Monterey (2012), Experience the California Coast – Beaches and Parks from Monterey to Ventura (2007), and Experience the California Coast – Beaches and Parks in Southern California (2009).
Number of designated scenic vistas or overlook points	Current total number of sites is 589	In the 2010 Assessment and Strategy, there were a total of 336 scenic vista/overlook sites. Therefore, a total of 253 new scenic/overlook sites have been added since 2010.	CCC's Public Access Inventory baseline which compiled the data contained in the: Commission's Coastal Access Guide (2014) and four regional guides: Experience the California Coast – Beaches and Parks in Northern California (2005), Experience the California Coast – Beaches and Parks from San Francisco to Monterey (2012), Experience the California Coast – Beaches and Parks from Monterey to Ventura (2007), and Experience the California Coast – Beaches and Parks in Southern California (2009).

Public Access Status and Trends			
Type of Access	Current number	Changes or Trends Since Last Assessment (↑, ↓, -, unkwn)	Cite data source
Number of fishing access points (i.e. piers, jetties)	Current total number of sites is 555	<p>In the 2010 Assessment and Strategy, there were a total of 483 fishing access sites.</p> <p>Therefore, a total of 72 new fishing sites have been added since 2010.</p>	<p>CCC's Public Access Inventory baseline which compiled the data contained in the: Commission's Coastal Access Guide (2014) and four regional guides: Experience the California Coast – Beaches and Parks in Northern California (2005), Experience the California Coast – Beaches and Parks from San Francisco to Monterey (2012), Experience the California Coast – Beaches and Parks from Monterey to Ventura (2007), and Experience the California Coast – Beaches and Parks in Southern California (2009).</p>
Coastal trails/ boardwalks	<p>No. of Trails/ boardwalks 824</p> <hr style="width: 50%; margin: 0 auto;"/> <p>Miles of Trails/boardwalk</p> <p style="text-align: center;">1403</p>	<p>In the 2010 Assessment and Strategy, there were a total of 342 trail sites.</p> <p>Therefore, a total of 482 new trail sites have been added since 2010.</p> <p>In the 2010 Assessment and Strategy, the total miles of trails was not calculated.</p> <p>A total of 1403 trail miles have been identified in 2014.</p>	<p>Number of trail sites and length of spur trails:</p> <ul style="list-style-type: none"> • CCC's Public Access Inventory baseline which compiled the data contained in the Commission's Coastal Access Guide (2014) = 730 trail miles <p>Length of CCT trails:</p> <ul style="list-style-type: none"> • Completing the California Coastal Trail Plan, California State Coastal Conservancy and California Coastal Commission (2003) = 548 trail miles • Strategic Plan, California State Coastal Conservancy (2013-2018) = 125 trail miles

Public Access Status and Trends			
Type of Access	Current number	Changes or Trends Since Last Assessment (↑, ↓, -, unkwn)	Cite data source
Number of acres parkland/open space	Total sites 1238	In the 2010 Assessment and Strategy, there were a total of 538,077 acres of park land publicly available. In 2014, the total number of acres of parkland/open space is 595,781.38 acres. We were not asked to determine how many acres are publicly available.	California Protected Areas Database - CPAD http://www.calands.org/uploads/docs/cpad_flyer.pdf http://www.greeninfo.org/work/project/cpad-the-california-protected-areas-database GreenInfo Network has developed the authoritative GIS database of all protected open space lands in California - over 49 million acres in over 55,000 separate holdings, owned by more than 900 public agencies and nonprofits. CPAD, the California Protected Areas Database, is now the most extensive state data set on protected lands in the United States.
	Sites per miles of shoreline 1.9		
Other (please specify)			

- Briefly characterize the demand for coastal public access and the process for periodically assessing demand. Include a statement on the projected population increase for your coastal counties.¹⁹ There are several additional sources of statewide information that may help inform this response, such as the Statewide Comprehensive Outdoor Recreation Plan,²⁰ the National Survey on Fishing, Hunting, and Wildlife Associated Recreation,²¹ and your state’s tourism office.

California’s population continues to grow, the estimated rate is approximately 8.8% through 2020, and with that growth is a continued need to provide additional coastal public access opportunities. The majority of Californians live within an hour of the coast and most of them want to recreate along the coastline. The Coastal Commission assesses the demand for public recreation through our partnerships with local government, using the Local Coastal Program (LCP) process. As LCPs are updated or amended,

¹⁹ See NOAA’s Coastal Population Report: 1970-2020 (Table 5, pg. 9): <http://stateofthecoast.noaa.gov/coastal-population-report.pdf>

²⁰ Most states routinely develop “Statewide Comprehensive Outdoor Recreation Plans”, or SCROPs, that include an assessment of demand for public recreational opportunities. Although not focused on coastal public access, SCROPs could be useful to get some sense of public outdoor recreation preferences and demand. Download state SCROPs at www.recpro.org/scorps.

²¹ The National Survey on Fishing, Hunting, and Wildlife Associated Recreation produces state-specific reports on fishing, hunting, and wildlife associated recreational use for each state. While not focused on coastal areas, the reports do include information on saltwater and Great Lakes fishing, and some coastal wildlife viewing that may be informative and compares 2011 data to 2006 and 2001 information to understand how usage has changed. See www.census.gov/prod/www/fishing.html.

in areas that affect public access, the Commission uses the LCP process to ensure that the local government takes the proper research steps to determine what the recreational demand is and what implementation steps are needed to achieve compliance with that (usually) unmet demand.

As for the Statewide Comprehensive Outdoor Recreation Plan, in California the State Parks Department is responsible for completing it. This Plan was last updated in 2008 (before the last Assessment and Strategy) and will not be updated again until after this current Assessment and Strategy is completed. Therefore we are not able to benefit from any of the information that might be developed in this Plan for this current Assessment and Strategy.

3. If available, briefly list and summarize the results of any additional data or reports on the status or trends for coastal public access since the last assessment.

In 2011, Commission staff conducted a comprehensive analysis of all the vertical accessways required by the Coastal Commission as a condition of permit approval. The report, "Status of Vertical Accessways Acquired by Coastal Commission Actions 1973 to 2011" and dated December 23, 2011, covered the six southern counties. These include the most popular beach visitor destination counties: San Diego, Orange, Los Angeles, Ventura, Santa Barbara and San Luis Obispo. The reason that the vertical accessways were studied is that these accessways, when opened, will provide new opportunities for the public to reach the beach from the inland public road. Therefore the Commission has long prioritized the acceptance and opening of the vertical accessways.

The report documents that the Coastal Commission has required a total of 231 vertical accessways statewide as mitigation for approval of new development permits. These vertical accessways constitute about 10% of all the accessways required by the Commission through the regulatory program. The other 90% of accessways required are beach lateral easements and inland trails.

For just the six (of 15 overall) counties covered by this report, 111 vertical accessways have been required. Of those 111 required, 67 of them (or 60%) have been constructed and opened for public use. Therefore, while the Commission has been successful in implementing the required mitigation by opening 60% of the accessways, 40% still need to be opened. Therefore, while the Commission is on track to provide new public access opportunities, more work needs to be done in order to meet the demand for new public access to California's coastline. The biggest challenges facing the Commission staff are lack of funding to open the accessways and willing partners to take on the long-term operation and maintenance of these facilities.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could impact the future provision of public access to coastal areas of recreational, historical, aesthetic, ecological, or cultural value.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	Yes	No	No changes
Operation/maintenance of existing facilities	Yes	No	No Changes
Acquisition/enhancement programs	See table below	No	158 new sites have been protected since 2010

Public Access OTDs Accepted 2010 thru September 2014

Accepted and Managed By	Offer to Dedicate (Lateral)	Offer to Dedicate (Vertical)	Offer to Dedicate (Trail)	Offer to Dedicate (Other)	Other Legal Document (Trail)	Total
State Agency	77	1	34	2	1	115
Local Government	16	7	5	2	2	32
Nonprofit	5	3	1	1	1	11
Total	98	11	40	5	4	158

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
- Describe the significance of the changes;
 - Specify if they were 309 or other CZM-driven changes; and
 - Characterize the outcomes or likely future outcomes of the changes.

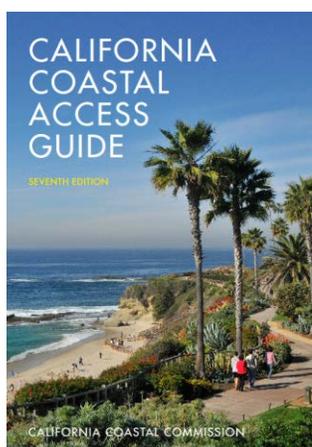
a. Significance. The changes since the 2010 Assessment have resulted in new public access which is a significant accomplishment for the program and for the people of the state.

b. OCM-driven changes. For the 158 new sites that were created since 2010, these sites are a result of conditions imposed by the Commission through the regulatory program, thus they are CZM-driven changes.

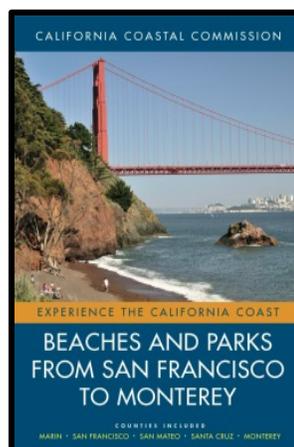
c. Each of these sites is now permanently protected for public access purposes and therefore will add to the body of similarly protected lands. Each represents the opportunity for additional new accessways to and along the coast, as well as inland trail segments, once they are built and open for operation. Therefore each site is a step in increasing the public's ability to get to and use our public lands.

3. Indicate if your state or territory has a publically available public access guide. How current is the publication and how frequently it is updated?

Public Access Guide	Printed	Online	Mobile App
State or territory has? (Y or N)	2014 2012 2009 2007 2005	No	Being developed
Yes			
Web address (if applicable)	N/A	N/A	N/A
Date of last update	2014	N/A	N/A
Frequency of update	Every few years	N/A	N/A



Published 2014



Published 2012

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High _X____
Medium _____
Low _____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Protecting and providing public access is one of the highest priorities in the Coastal Act. The Commission planning and regulatory program must continue to implement measures to ensure that public access is

maximized. Maximizing Public Access and Recreation is one of the main goals in the agency's 2013-2018 Strategic Plan.

The Strategic Plan focuses on four primary areas for achieving the goal of maximizing public access and recreation. These are:

Objective 1.1 – Enhance Public Access through Updated Beach Access Assessment and Constraints Analysis

Actions:

- 1.1.1 Document and assess existing public access facilities including vertical and lateral public accessways, parking constraints and fees, beach curfews, hours of operation, physical impediments, encroachments, and other unpermitted development that may be blocking or limiting public access.
- 1.1.2 Coordinate with local governments to develop guidelines regarding beach curfews, parking, hours of operation, and other access and management issues.
- 1.1.3 Coordinate with California State Parks on statewide shoreline access issues, including parking management, at state parks.
- 1.1.4 Conduct an assessment of existing and potential future public accessways, including unsecured Offers to Dedicate (OTD) vertical and lateral accessways, deed restrictions, prescriptive accessways, etc.; ensure those accessways are secured in permanent protection; identify the steps and work with partners to develop and open accessways for public use.
- 1.1.5 Identify locations where access may be limited or eliminated in the future due to sea level rise and increased storm events and begin planning for other options such as new vertical accessways to maintain maximum beach access (see also Action 3.2.1).

Objective 1.2 – Protect Public Access and Recreation by Implementing Improved Mitigation Strategies

Actions:

- 1.2.1 Evaluate methodologies for valuing and mitigating impacts to beach and coastal recreation and ecology from shoreline armoring. Provide updated guidance to applicants and local governments on assessing and mitigating impacts to public access and beach ecosystem services from shoreline armoring projects.
- 1.2.2 Work with the Conservancy, State Parks, and other state and local partners to identify, plan for, and provide new public access and recreational opportunities and lower-cost visitor-serving accommodations through effective allocation of existing and potential future in-lieu fees for such.
- 1.2.3 Enhance sediment management planning and programs in relation to beach impact mitigation through inter-agency coordination, research, and policy guidance.

Objective 1.3 – Improve Public Information about Public Access Opportunities and the California Coastal Trail (CCT) through Outreach and Education

Actions:

- 1.3.1 Update the statewide Coastal Access Guide book to include information produced for the Commission’s regional guide series and other new features that enhance the public’s knowledge about coastal access and how to experience coastal areas. Identify funding to support the provision of the Coastal Access Guide book in multiple languages.
- 1.3.2 Create county-level regional public access guide maps where feasible.
- 1.3.3 In coordination with the Conservancy, develop a web-based and/or mobile web application that provides maps and descriptions of coastal access and recreation resources.
- 1.3.4 Evaluate and pursue opportunities to provide information and increase public access and recreation for inland communities and other areas of the state to which the coast is less accessible.
- 1.3.5 Integrate the Commission’s existing database of secured public accessways into the new Coastal Data Management System (see Objective 6.1).
- 1.3.6 Develop recommended signage for new public accessways required by regulatory and enforcement decisions that recognizes the role of the Commission and other partners.

Objective 1.4 – Expand the California Coastal Trail System through Enhanced Planning and Implementation

Actions:

- 1.4.1 Evaluate the public access component of LCPs proposed for update to identify trail gaps, potential alignments, and policies and programs to establish and enhance CCT segments.
- 1.4.2 Coordinate with partners including the Conservancy, State Parks, and local governments to plan for and implement new CCT segments through an enhanced joint coastal access program.
- 1.4.3 Enhance coordination with Caltrans, State Parks and the Conservancy to assure effective CCT implementation through transportation project planning and development.
- 1.4.4 Identify locations of the CCT that might be at risk from rising sea level and increased storm events and begin planning for trail relocations or other alternatives to insure continued functionality of the CCT (see also Action 3.2.1).

This was one of the top three priority areas identified in the initial stakeholder survey.

managed in the coastal zone.

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Marine debris statutes, regulations, policies, or case law interpreting these	Y	Y	Y
Marine debris removal programs	Y	Y	Y

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
- Describe the significance of the changes;
 - Specify if they were 309 or other CZM-driven changes; and
 - Characterize the outcomes and likely future outcomes of the changes.

Marine debris statutes, regulations, policies, or case law interpreting these:

Since the last assessment there has been a groundswell of policy efforts designed to reduce marine debris and prevent it from entering the ocean.

- Since the last assessment, over 100 cities and counties have passed laws banning the use of plastic bags at grocery stores, pharmacies, and convenience stores. This past October, a state law banning the use of plastic bags at these outlets was signed, and will go into effect in July, 2015. This was not a 309 or other CZM-driven change. The expected outcome is that plastic bags will begin to become a much less significant part of California’s marine debris problem, as evidenced by the 34% reduction in plastic bags that San Francisco has seen since its plastic bag ban was passed in 2007.
- Over 80 cities have passed bans on expanded polystyrene foamware (commonly called Styrofoam) for food and beverage packaging. This was not a 309 or other CZM-driven change. Similar to the plastic bag ban, this has resulted in greatly reduced amounts of EPS litter collected by volunteers during Cleanup events, and this outcome will continue as the bans remain in effect and spread to other cities.
- Prior to the last assessment, the Regional Water Quality Control Board had issued a TMDL for trash on the Los Angeles River and Ballona Creek. The limit set by that TMDL was zero. The City and County of Los Angeles has been implementing this TMDL ever since, which has resulted in significantly more trash being collected from catch basins and storm drains than before, meaning that trash was captured before it entered the ocean. The Regional Water Quality Control Board for the Bay Area recently issued a new stormwater permit for 7 of the 9 Bay Area cities that emulated the LA River TMDL by setting the permitted levels of trash issued from the stormwater systems at zero within a set timeframe, as well as benchmark reductions prior to that. A statewide permit that sets the same limits is in draft form from the State Water Quality Control Board, and is expected to pass within two years. This was not a 309 or other CZM-driven change. The outcome of these measures will be significant reductions in trash entering the ocean from stormwater systems in California, which is the most significant source of marine debris entering the ocean in the state. As these measures are implemented, there will be increasing capture of trash upstream from the ocean.

Marine debris removal programs:

Since the last assessment, there have been expansions of all marine debris removal programs in place in California:

- 1) The Coastal Commission’s Coastal Cleanup Day and Adopt-A-Beach programs continue to grow, reaching new areas, especially in inland California, and attracting more volunteers and more frequent cleanups. The Coastal Cleanup Day Program annually attracts over 60,000 volunteers for the one-day event, while the Adopt-A-Beach Program brings 30,000-40,000 additional volunteers to year-round cleanups. This was not a CZM-driven change. The outcome of these additional cleanups and volunteers is cleaner beaches on a more frequent basis up and down the coast.
- 2) In 2012, the Coastal Commission launched a Japan Tsunami Marine Debris Cleanup Program in an effort to identify, track, and remove debris that may have come from the 2011 tsunami in Japan. This was not a 309 or other CZM-driven change. The outcome was more than 4,000 additional volunteers cleaning selected beaches in each of the 15 coastal counties in California. The Commission has received additional funding to continue these cleanups through June of 2016.
- 3) In 2010, the Department of Boating and Waterways launched a pilot Vessel Turn-In Program (VTIP). It was made permanent in 2013 through SB 122. Interest in the program among local public agencies is growing, which may result in a significant reduction of abandoned vessels. Since 2010, 242 vessels have been removed through the VTIP program at an average cost of \$1,600 per vessel. Also since 2010, 386 vessels have been removed through the Abandoned Watercraft Abatement Fund program at an average cost of \$4,300.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High	_____
Medium	__X__
Low	_____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Marine debris as a public issue has only grown in importance over the past 5 years. As more people get involved in efforts like beach cleanups, they grow into a constituency that is ready to support innovative policies and regulations like the ones described above. We expect this interest to continue to grow in the coming years as increased scientific research into areas like the debris floating in the ocean gyres and the toxic impacts of ocean-going plastic on the food chain continue to come to light. Advocates in California supportive of the Coastal Program have found marine debris to be a doorway towards calls for increased coastal protection. As the only state agency that runs marine debris cleanup events, the Coastal Commission is in a unique position among state agencies to help government bring volunteer resources directly to bear on this issue. As a result, the Commission is able to increase public awareness of, and support for, coastal protection.

However, although this is an important issue it is not considered a high priority based both on competing demands in other priority areas and the fact that our established marine debris cleanup programs have already demonstrated the capacity to provide valuable measurements over time of the efficacy of other marine debris abatement programs put into place by other local and state regulatory agencies.

CUMULATIVE AND SECONDARY IMPACTS

Section 309 Enhancement Objective: Development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources. §309(a)(5)

Resource Characterization:

- Using National Ocean Economics Program Data on population and housing,²² please indicate the change in population and housing units in the state's coastal counties between 2012 and 2007. You may wish to add additional trend comparisons to look at longer time horizons as well (data available back to 1970), but at a minimum, please show change over the most recent five year period (2012-2007) to approximate current assessment period.

Trends in Coastal Population and Housing Units				
Year	Population		Housing	
	Total (# of people)	% Change (compared to 2002)	Total (# of housing units)	% Change (compared to 2002)
2007	20,403,477	3%	7,357,818	2%
2012	21,029,173		7,537,629	

These numbers appear to differ only slightly from those of the State Department of Finance Demographic Unit. It is unclear why there is a discrepancy, although it may be due to the national data including counties under jurisdiction of the BCDC and not the Coastal Commission. Presented below are the California Department of Finance numbers for population and housing units in the 15 coastal counties under jurisdiction of the CCC:

Trends in Coastal Population and Housing Units USING CA DOF DATA				
Year	Population		Housing	
	Total (# of people)	% Change (compared to 2002)	Total (# of housing units)	% Change (compared to 2002)
2007	20,341,588	2.4%	7,393,375	2.2
2012	20,824,300		7,554,419	

Sources, Accessed on 9/17/14: http://www.dof.ca.gov/research/demographic/reports/estimates/e-5/2011-20/documents/E-5_2014_Internet_Version.xls and

²² www.oceaneconomics.org/. Enter "Population and Housing" section. From drop-down boxes, select your state, and "all counties." Select the year (2012) and the year to compare it to (2007). Then select "coastal zone counties." Finally, be sure to check the "include density" box under the "Other Options" section.

http://www.dof.ca.gov/research/demographic/reports/estimates/e-8/2000-10/documents/E8_2000-2010_Report_ByYear_Final_EOC.xls

The DOF projects that coastal counties will grow an additional 7% from 2010 to 2020. The projections for the next 5 years are:

Total Population Projections for California and Counties: July 1, 2015 to 2060 in 5-year Increments

	Estimates	Projections		% change from 2010-2020
	2010	2015	2020	
California	37,341,978	38,896,969	40,619,346	8.8%
San Francisco	808,850	848,564	891,493	10.2%
San Diego	3,112,965	3,244,706	3,375,687	8.4%
San Mateo	719,446	752,751	777,088	8.0%
Sonoma	484,852	501,350	523,615	8.0%
Orange	3,014,996	3,150,934	3,243,261	7.6%
Santa Barbara	424,688	439,082	455,858	7.3%
Monterey	416,141	429,584	446,258	7.2%
Santa Cruz	263,709	273,695	281,870	6.9%
Los Angeles	9,824,194	10,147,070	10,435,991	6.2%
Ventura	825,193	850,206	876,124	6.2%
San Luis Obispo	269,446	274,254	283,667	5.3%
Marin	252,937	258,804	259,794	2.7%
Mendocino	88,292	88,884	90,411	2.4%
Humboldt	136,056	137,159	139,033	2.2%
Del Norte	28,822	28,587	29,146	1.1%
Total Coastal Only	20,670,587	21,425,630	22,109,296	7.0%

<http://www.dof.ca.gov/research/demographic/reports/projections/P-1/> Accessed 1/15/15.

For the state as a whole the Department of Finance projects that southern California will lead the State's growth in numbers of persons over the next 50 years (2010 to 2060) (Dept. of Finance Press Release 1/31/13). For the state as a whole, the highest overall percentage of projected growth will be in inland counties. In 2010, coastal counties contained over half of the state's population (55.4%). By 2020 the percentage is expected to drop by 1% (to 54.4%). These considerations will increase pressure to provide for public access, transportation and overnight accommodations in the coastal zone for Californians both residing in coastal counties as well as visiting the coast from inland parts of the state and especially in the projected growth areas in southern California. As shown by the above table, two thirds of the coastal counties are projected grow by more than 5% by 2020. Some of these such as San Mateo, Sonoma, Santa Barbara, Monterey, and Santa Cruz, have substantial agriculture and/or open space resources and urban-rural limit lines. While it is likely much of the population growth projected may occur outside the coastal zone, it could also result in more development pressure and more issues related to concentration of development and agricultural protection in the coastal zone.

- Using provided reports from NOAA’s Land Cover Atlas²³ or high-resolution C-CAP data²⁴ (Pacific and Caribbean Islands only), please indicate the status and trends for various land uses in the state’s coastal counties between 2006 and 2011. You may use other information and include graphs and figures, as appropriate, to help illustrate the information.

Distribution of Land Cover Types in Coastal Counties		
Land Cover Type	Land Area Coverage in 2010 (Acres)	Gain/Loss Since 2006 (Acres)
Developed, High Intensity	1091232.0	12876.8
Developed, Low Intensity	649587.2	4812.8
Developed, Open Space	374086.0	-25.6
Grassland	3522278.4	2003.2
Scrub/Shrub	6176832.0	-672.0
Barren Land	680378.0	-1990.4
Open Water	3506144.0	-3398.4
Agriculture	933171.2	7353.6
Forested	6443808.0	-23040.0
Woody Wetland	114848.0	-204.8
Emergent Wetland	106227.2	2278.4

Source: <http://coast.noaa.gov/ccapatlas/>

The greatest loss was in the forested land cover, with Humboldt County accounting for 63% of the loss. However, most of this occurred outside of the coastal zone. The greatest increase of high density development occurred in the three southernmost coastal counties. Los Angeles, Orange and San Diego counties account for 77% of the increase, but again, nearly all of this increase occurred outside of the Coastal Zone.

- Using provided reports from NOAA’s Land Cover Atlas²⁵ or high-resolution C-CAP data²⁶ (Pacific and Caribbean Islands only), please indicate the status and trends for developed areas in the state’s coastal counties between 2006 and 2011 in the two tables below. You may use other information and include graphs and figures, as appropriate, to help illustrate the information.

Development Status and Trends for Coastal Counties			
	2006	2010	Percent Net Change
Percent land area developed	10.97%	11.04%	.64%
Percent impervious surface area	4.97%	5.0%	.76%

Source: <http://coast.noaa.gov/ccapatlas/>

²³ www.csc.noaa.gov/ccapatlas/. Summary data on land use trends for each coastal state is available on the ftp site.

²⁴ www.csc.noaa.gov/digitalcoast/data/ccaphighres. Summary data on land use trends for each coastal state is available on the ftp site.

²⁵ www.csc.noaa.gov/ccapatlas/. Summary data on land use trends for each coastal state is available on the ftp site.

²⁶ www.csc.noaa.gov/digitalcoast/data/ccaphighres. Summary data on land use trends for each coastal state is available on the ftp site.

How Land Use Is Changing in Coastal Counties	
Land Cover Type	Areas Lost to Development Between 2006-2010 (Acres)
Barren Land	6156.8
Emergent Wetland	83.2
Woody Wetland	64
Open Water	32
Agriculture	3328
Scrub/Shrub	2905.6
Grassland	6566.4
Forested	236.8

Source: <http://coast.noaa.gov/ccapatlas/>

- Using data from NOAA’s State of the Coast “Shoreline Type” viewer,²⁷ indicate the percent of shoreline that falls into each shoreline type.²⁸ You may provide other information or use graphs or other visuals to help illustrate.

Shoreline Types	
Surveyed Shoreline Type	Percent of Shoreline
Armored	14%
Beaches	22%
Flats	34%
Rocky	21%
Vegetated	8%

- If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the cumulative and secondary impacts of coastal growth and development, such as water quality and habitat fragmentation, since the last assessment to augment the national data sets.

Since 2010, the Commission has protected over 2,080 acres of land through implementation of its Offer to Dedicate (OTD) Open Space and Conservation Easement Program, which provides mitigation for approved development. In this timeframe, 164 OTDs were accepted, providing protection of many different types of resources, including wetlands, riparian habitats, sensitive archaeological sites, agriculture, coastal sage scrub and chaparral habitats, steep slopes, viewsheds, pygmy forest, oak woodlands, and Monterey pine forest.

Management Characterization:

- Indicate if the approach is employed by the state or territory and if there have been any significant state-level changes (positive or negative) in the development and adoption of procedures to assess, consider, and control cumulative and secondary impacts of coastal growth and development, including the collective effect on various individual uses or activities on coastal resources, such as coastal wetlands and fishery resources, since the last assessment.

²⁷ <http://stateofthecoast.noaa.gov/shoreline/welcome.html>

²⁸ Note: Data are from NOAA’s Environmental Sensitivity Index (ESI) Maps. Data from each state was collected in different years and some data may be over ten years old now. However, it can still provide a useful reference point absent more recent statewide data. Feel free to use more recent state data, if available, in place of ESI map data. Use a footnote to convey data’s age and source (if other than ESI maps).

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y	N	Y
Guidance documents	Y	Y	Y
Management plans (including SAMPs)	Y	Y	Y

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
- Describe the significance of the changes;
 - Specify if they were 309 or other CZM-driven changes; and
 - Characterize the outcomes or likely future outcomes of the changes.

Statutes, regulations, policies, or case law

(1) Sustainable Communities Act,

a. The Sustainable Communities and Climate Protection Act of 2008 (Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008) was implemented (in part, through grants issued by the Strategic Growth Council) during this period. Note that SB 375 is not implemented directly by the Coastal Commission or the CCMP, but it may inform LCP planning.

The law put in place new requirements intended to support the State's climate action goals through coordinated transportation and land use planning. The law requires metropolitan planning organizations (MPOs) to develop a Sustainable Communities Strategy (SCS) as part of the regional transportation plan (RTP) containing land use, housing, and transportation strategies designed to try to meet greenhouse gas (GHG) reduction target established for each region by the California Air Resources Board. These regional SCS can include measures that can alter a region's land use and travel patterns such as: supporting infill and higher densities and compact growth in areas accessible to transit, expanding transit access through transit infrastructure and service improvements, investing in biking and walking and Innovative finance mechanisms that incentivize reduced vehicle miles traveled (VMT). The related Sustainable Communities Planning Grants and Incentives Program awarded three rounds of grants to develop and implement plans that reduce greenhouse gas emissions and achieve other sustainability objectives.

b. This was not a 309 or CZMA driven change.

c. In the coastal zone the implementation of some of these new sustainability strategies may result in new or updated LCP policies and land use designations, such as ones related to concentration of development and mixed uses, revisions in parking standards and transit access, and expansion of alternative transportation access to the coast. The measures proposed under the Sustainable Communities Strategies when applied in the coastal zone will need to reflect issues and resolution of conflicts related to public access and priority land uses and other policies of the California Coastal Act.

(2) Sustainable Groundwater Management Act

a. In response to the historic drought in California, on September 16, 2014, Governor Jerry Brown signed into law a three-bill legislative package, known as the Sustainable Groundwater Management Act. The new requirements will manage the pumping of groundwater basins, and will be implemented going forward with groundwater sustainability plans for basins to be developed by target dates 2020, 2022 and 2040, depending on the on the status of the basin. By 2040, all "high and medium priority" basins must achieve sustainability. These new laws are being carried out by the Department of Water Resources (DWR)) and the State Water Resources Control Board. The Coastal Commission has no direct role in the implementation of these laws. Information at:

<http://www.water.ca.gov/groundwater/sgm/index.cfm>

In addition, on April 1, 2015 the Governor issued the first ever Executive Order to reduce water usage in California cities and counties by an aggregate 25%. The Executive Order includes measures to save water, increase enforcement of prevent waste water use, streamline the State's drought response and invest in new technologies to make California more drought resistant. Information at:

<http://www.waterboards.ca.gov/>

The Coastal Commission has historically protected and regulated groundwater supplies through its LCP and regulatory program. The Coastal Act includes several policies to protect water and marine resources. Section 30231 specifically includes preventing depletion of groundwater supplies and interference with surface water flow as measures to protect the biological productivity and quality of coastal waters and streams:

The biological productivity and the quality of coastal waters, streams, wetlands, estuaries, and lakes appropriate to maintain optimum populations of marine organisms and for the protection of human health shall be maintained and, where feasible, restored through, among other means, minimizing adverse effects of waste water discharges and entrainment, controlling runoff, preventing depletion of ground water supplies and substantial interference with surface water flow, encouraging waste water reclamation, maintaining natural vegetation buffer areas that protect riparian habitats, and minimizing alteration of natural streams.

Section 30236 also protects coastal rivers and streams:

Channelizations, dams, or other substantial alterations of rivers and streams shall incorporate the best mitigation measures feasible, and be limited to (1) necessary water supply projects, (2) flood control projects where no other method for protecting existing structures in the flood plain is feasible and where such protection is necessary for public safety or to protect existing development, or (3) developments where the primary function is the improvement of fish and wildlife habitat.

In addition, the Coastal Act Section 30250 requires, in part, that: *New residential, commercial, or industrial development, except as otherwise provided in this division, shall be located within, contiguous with, or in close proximity to, existing developed areas able to accommodate it or, where such areas are not able to accommodate it, in other areas with adequate public services and where it will not have significant adverse effects, either individually or cumulatively, on coastal resources.*

This section requires that new development must be located in areas that are able to accommodate such development and where adequate public services, including water service, are provided.

Given the historic drought conditions in California the potential for the depletion of surface and ground water supplies and intrusion of seawater into critical groundwater basins is likely in many areas of the coastal zone. The individual and cumulative impacts of new development on coastal resources, and priority land uses, such as agriculture, must be evaluated and addressed in light of diminishing water supply and new State water laws/regulations. The Commission will need to evaluate how new water supply and ground water sustainability measures and requirements are incorporated into LCP planning and regulatory actions under the Coastal Act.

b. This was not a 309 or CZMA driven change.

c. In the coastal zone groundwater is currently addressed in LCP planning and permit regulation through measures to protect coastal water and marine resources. In the coastal zone it is not yet evident whether potential groundwater sustainability measures may have implications for coastal land uses and resources protection policies, or what is the best way for LCPs to reflect such measures. But the new requirements are likely to significantly inform water policy going forward and implications in the coastal zone will need to be determined as new laws and regulations are implemented.

Guidance Documents

a. The following guidance documents were developed from 2007-2012:

- 1) Updating LCP Implementation Plan (IP) Procedures 9/29/2010
- 2) Protecting and Providing Lower Cost Overnight Accommodations through Local Coastal Program Updates and Development Permits: Administrative Draft. 3/29/11
- 3) Report on Available LCP Planning and Implementation Guidance for Local Government 7/29/11
- 4) Revised LCP Update Guide 7/31/13
- 5) Expanded Implementation of an In Lieu Fee Mitigation Program: Recommendations for Priorities and Implementation Strategy 7/30/13

As the Commissions 2010 309 Assessment and Strategy documented, LCPs are a key mechanism to control cumulative and secondary impacts of coastal growth and development. The overarching issue outlined in that document (under Cumulative and Secondary Impacts as well as Special Area Management Planning) was the need to update LCPs to adequately address the avoidance of cumulative impacts from new development, especially regarding climate change. Guidance documents 1-4 were all designed to share best practices and to provide local coastal governments suggested policy and implementation provisions to incorporate into Local Coastal Programs. The guidance addressed new and emerging information on implementing key policy issues under the Coastal Act. Guidance document 5 was designed to develop a strategy and enhanced Commission procedures to ensure mitigation required through in lieu fees is adequately monitored and implemented. It was intended to enhance protection of public access to lower-cost visitor serving overnight accommodations as required by Section 30213 of the Coastal Act; and refine and strengthen the Commission permit mitigation requirements for all projects that involve in lieu fees.

- b. All of these were developed using Section 309 grant funds.
- c. The outcomes from guidance contained in documents 1-4 above, are updated LCP policies and implementing regulations through LCP Amendment certified by the Commission. The outcome of Guidance document 5 has been new Commission procedures to monitor in lieu fee mitigation, and facilitating future work to ensure mitigation fees are expended to achieve projects on the ground.

Management Plans

- a. The significant change in management plans since 2009 is reflected in the LCP program (SEE also SAMP Discussion). From 2009 to March 2014, the Commission acted on approximately 17 LCP Amendments that updated Local Coastal Program Land Use Plans or Implementing ordinances in whole or in part to reflect new information and/or changed conditions. These included amendments that were designed to reduce future damage from hazards and to develop or update sustainable development ordinances, policies and plans. Approximately 4 new LUPs/IPs or LCPs were effectively certified. The Guidance documents discussed above provided local governments with guidance that informed these updates. In addition, the Commission acted on 8 management plans through the federal consistency program. The management plans are listed in the Special Area Management Plan Phase 1 Assessment.
- b. None of these were funded directly by CZMA funds but all included coordination and efforts to assist local governments or the federal government, as applicable, by work of Commission staff funded in part with CZMA funding. LCPs and LCP Amendments are primarily initiated and funded at the local level. However, Commission staff engagement early on in the planning process is critical to ultimate approval/certification of LCPs and LCP Amendments. Federal funding in part supports Commission staff efforts in the LCP development/planning stages and for Commission staff time in the review and approval of LCPs/LCP-Amendments
- c. As a result of these amendments the Local Coastal Programs will be better able to guide and review development proposals consistent with the California Coastal Act, including addressing cumulative and secondary impacts. The federal consistency actions resulted in enhanced protection of coastal resources on federal park and military lands.

Enhancement Area Prioritization:

- 1. What level of priority is the enhancement area for the coastal management program?

High	<u> X </u>
Medium	<u> </u>
Low	<u> </u>

- 2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

As in the prior 2010 Assessment, the cumulative and secondary impacts of development in the coastal zone intersect with every other enhancement area in some way and as a result this remains a high priority enhancement area. The update of LCPs will need to address potential cumulative impacts in land use planning, including new information related to sustainability and climate adaptation. And, as the Commission is not currently pursuing the periodic review of LCP implementation as noted in Coastal Act

section 30519.5, the LCP update process remains a key vehicle for considering the cumulative and secondary impacts of development and to develop policies to avoid or minimize those impacts.

As growth occurs in inland areas, pressure will increase on the ability of the public to access the coast, and especially to access affordable recreation and visitor serving facilities, including overnight facilities. The Commission staff must develop new plan provisions and policy mechanisms to ensure maximum public access to the coast and provision of adequate support facilities so that cumulative development pressures will not result in conversion or loss of affordable facilities and public access. And, the Commission and local government must assess and develop ways to protect shoreline resources and public access and trails in the face of projected sea level rise.

As discussed elsewhere in this Assessment, the Commission will continue to encourage local governments to update and amend their LCPs, as Commission is still unable to require such changes; under the CCMP, a local government assumes responsibility for implementing the Coastal Act after certification of its LCP. The Commission will continue to provide technical assistance and early coordination as resources are available and will encourage the legislature to continue to provide financial assistance for planning grants to local governments to complete or update LCPs. Continued improvements to information sharing and retrieval in order to monitor effects of LCP Amendments and condition compliance and use comprehensive data in analyzing cumulative impacts continues to be a critical need.

However, in the initial stakeholder survey this issue fell below the higher priority topics. However, several cumulative impact issues overlap with others in Hazards and Public Access, which are higher priority areas, so that a strategy may address several issues areas of concern across topics.

SPECIAL AREA MANAGEMENT PLANNING

Section 309 Enhancement Objective: Preparing and implementing special area management plans for important coastal areas. §309(a)(6)

The Coastal Zone Management Act defines a Special Area Management Plan (SAMP) as “a comprehensive plan providing for natural resource protection and reasonable coastal-dependent economic growth containing a detailed and comprehensive statement of policies; standards and criteria to guide public and private uses of lands and waters; and mechanisms for timely implementation in specific geographic areas within the coastal zone. In addition, SAMPs provide for increased specificity in protecting natural resources, reasonable coastal-dependent economic growth, improved protection of life and property in hazardous areas, including those areas likely to be affected by land subsidence, sea level rise, or fluctuating water levels of the Great Lakes, and improved predictability in governmental decision making.”

Resource Characterization:

1. The table below identifies geographic areas in the coastal zone subject to use conflicts that may be able to be addressed through a special area management plan (SAMP). This can include areas that are already covered by a SAMP but where new issues or conflicts have emerged that are not addressed through the current SAMP.

Geographic Area	Opportunities for New or Updated Special Area Management Plans
	Major conflicts/issues
Coastal zone	34 LCP segments remain to be certified in the coastal zone. Approximately 50 Areas of Deferred Certification remain to be incorporated into a certified LCP. Of the 92 certified LCP segments, 41 have not been updated in any part; 37 have been updated only in part and may need future comprehensive updates to address new information and changed conditions.
	Source: Executive Director’s Report, March 2014; LCP Update Status: at http://documents.coastal.ca.gov/reports/2014/3/W5a-3-2014.pdf

Within California’s Coastal Management Plan (CCMP), Local Coastal Programs (LCPs) are considered the equivalent of the CZMA Section 309(a)(6) definition of *Special Area Management Plans (SAMPs)* for important coastal areas. Under the California Coastal Act, local governments are required to complete LCPs which, as defined by the Coastal Act, should include: (a) land use plans, (b) zoning ordinances, (c) zoning district maps, and (d) within sensitive coastal resources areas, other implementing actions that are sufficiently detailed to indicate the kinds, location, and intensity of land uses, the applicable resource protection and development policies and, where necessary, a listing of implementing actions. In addition, the Commission continues to review and maintain special area plans for the four industrial ports, public works planning for special districts, including important State Park units, long range development plans for university properties, plans for the siting of energy facilities, and review of management plans for federal properties.

An Area of Deferred Certification (ADC) refers to a geographic area that has not been officially segmented for purposes of LCP preparation and during certification review of the LCP, was not certified. This could occur if the planning and management problems for that geographic area were especially difficult to resolve. Deferring certification may allow more time to resolve such problems while certifying and delegating most permit authority over most of the jurisdiction under a certified LCP. But until an LCP is certified for an ADC, the Commission retains permit authority in that area.

a. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of SAMPs since the last assessment.

The significant changes in management plans since 2009 are reflected in the LCP program. Since 2009, four new LUP or LCP segments were certified (City of Redondo Beach Area 2 LCP, City of Solana Beach LUP, City of Seaside LCP and the Los Angeles County Santa Monica Mountains segment LCP) and the Commission acted on approximately 17 LCP Amendments that updated Local Coastal Program Land Use Plans (LUPs) or Implementation Plans (IPs) (i.e. zoning ordinances that implement the LUP policies) in whole or in part to reflect new information and changed conditions. (Many additional LCP Amendments were acted on, but these were primarily project-driven amendments that did not represent updates in whole or in part.) These 17 amendments included ones that were designed to reduce future damage from hazards and to develop or update sustainable development ordinances, policies and plans. The Guidance documents discussed under Cumulative and Secondary Impacts provided local governments with guidance that contributed to these updates.

In addition, since 2009 when the last 309 Assessment was compiled, the Commission has acted on 8 special area management plans through the federal consistency review process. These management plans addressed the protection of coastal resources on federal park and military lands. They are:

- CD-023-09 NPS Transportation Management Plan for Marin Headlands, GGNRA
- ND-024-09 Navy Bird and Animal Strike Management Plan, Point Mugu Air Station
- ND-031-09 USFWS Comprehensive Conservation Plan, Humboldt Bay NWR
- ND-059-10 NPS Headlands Institute Management Plan, GGNRA
- ND-032-11 BLM Wilderness Management Plan for King Range Wilderness and Rocks and Islands Wilderness
- ND-025-12 NPS Marin Equestrian Stables Management Plan
- ND-049-12 NPS General Management Plan, GGNRA
- ND-0203-13 NPS Tomales Bay Vessel Management Plan

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any significant state- or territory-level management changes (positive or negative) that could help prepare and implement SAMPs in the coastal zone.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
SAMP policies, or case law interpreting these	Y	Y	Y
SAMP plans	Y	Y	Y

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
- Describe the significance of the changes;
 - Specify if they were 309 or other CZM-driven changes; and
 - Characterize the outcomes or likely future outcomes of the changes.

Policies or Case Law

Policies

In California the LCPs are considered SAMPS. And as such, SAMP “policies” and SAMP “Plans” are, in essence, the same thing. So the response is given for both items as a whole.

a. Significance: The LCPs that have been certified and updated in whole or in part have incorporated newer development standards to address newer scientific information (to date 9 have incorporated policies regarding sea level rise for example), changed conditions or new and emerging issues. As a result they are better equipped to guide review of development proposals in a manner consistent with the California Coastal Act going forward for the next decade.

In FY 13-14 and FY14-15 state funds were appropriated for LCP Planning Grants to local governments. The Commission awarded \$2 million in funds through 23 grants to 21 jurisdictions to complete or to update LCPs. Significantly, 21 of these grants include completing technical and/or planning work to address shoreline hazards and sea level rise resiliency at the local level. In addition, \$2.5 million in grant funds for LCP updates to address sea level rise and funds other vulnerability assessments and modeling studies were also provided by the California Ocean Protection Council. In addition Climate Ready Grants provided through the State Coastal Conservancy also provided important funds to support local government sea level rise vulnerability assessment and planning projects.

b. 309 or CZM-driven Changes: Yes. The development of LCPs and LCPAs is not funded through CZMA funds, but the Commission staff is funded in part through CZMA 306 funds. The Commission staff provides extensive technical assistance and early and ongoing coordination and input during the planning process to help resolve conflicts. In some cases, Commission staff work can provide in-kind services such as habitat mapping for local governments. And, development of LCP Guidance, as discussed under the Cumulative and Secondary Impacts section has been funded by CZMA 309 funds.

c. The expected outcome will be updated LCPs submitted for certification. The first submittals are expected in the spring of 2016. The outcomes of new and updated LCPs are enhanced policies and ordinances to guide review of development proposals that will ensure development is carried out consistent with the California Coastal Act policies and standards at the local level

Case Law

There were several legal cases which had implications for the LCP planning program.

a. Describe the significance of the changes;

Charles A. Pratt Construction Co. v. California Coastal Commission, 162 Cal.App.4th 1068 (2008). The significance is that certified LCPs have the status of state law, not just local law.

McAllister v. California Coastal Commission, 169 Cal.App.4th 912 (2009). The significance is that absent a clear showing of contrary intent in the LCP, the LCP should be interpreted consistently with Coastal Act requirements.

Citizens for a Better Eureka v. California Coastal Commission, 196 Cal.App.4th 1577 (2011). The significance is that the Coastal Act provision allowing local governments to abate nuisances without first obtaining coastal development permit does not allow local governments to avoid requirements of their own LCPs.

City of Dana Point v. California Coastal Commission, 217 Cal.App.4th 170 (2013). The significance is that local government may not declare a nuisance as pretext for avoiding requirements of the LCP.

b. These were not 309 or other CZM-driven changes; and

c. The outcome of these changes overall clarified and strengthened the LCP program.

SAMP Plans

a. Describe the significance of the changes

From 2009 to March 2014, the assessment above describes the approximately 17 jurisdictions that have initiated or completed partial or comprehensive updates to their LCPs, 8 plans reviewed through federal consistency. In addition another plan, such as the UC Santa Cruz Long Range Development plan, was certified. Since 2010 at least 9 LCP segments have updated policies to address sea level rise²⁹. These plans revise and incorporate new information and updated policies and implementing measures, many that address the enhancement priority areas.

b. These were 309 or other CZM-driven changes in that much of the Guidance developed under the 309 Program was used in developing these plans.

c. Characterize the outcomes or likely future outcomes of the changes.

Updated land use designations, policies and ordinances in the LCPs will result in better permit decisions to protect coastal resources, especially in light of projected impacts of climate change.

Enhancement Area Prioritization:

²⁹ Source: Executive Director's Report March 2014 and LCP Status Reports for FY12 and FY 13.

1. What level of priority is the enhancement area for the coastal management program?

High X
Medium
Low

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

The LCP planning program is an essential part of the Coastal Act. The LCPs are the way local governments implement the state policies of Chapter 3 of the Coastal Act at the local level. Thus it is a major goal of the Commission’s 2013-2018 agency Strategic Plan that the LCP Program be strengthened (Goal 4). Ensuring that the LCPs remain up to date and equipped to guide future development in a manner that protects and enhances coastal resources is a priority task for the Commission. The Agency 2013-2018 Strategic Plan includes actions that recognize that guidance for local governments and improved sharing of information and best practices is needed to strengthen the program and ensure updates to LCPs. These program needs include, for example, the following recommended guidance:

- 4.2.3 Provide and update online guidance to local governments for updating LCPs to improve the transmittal of key planning and policy information related to:
 - (a) Climate change impacts, adaptation, and mitigation;
 - (b) Shoreline protective options and mitigation strategies;
 - (c) Evaluation of ESHA;
 - (d) Wetland delineations; and
 - (e) Protection of agricultural lands.

As well as the following outreach and enhanced coordination through workshops, training and information sharing:

- 4.4.1 Work with League of Cities and California State Association of Counties to hold periodic Commission-local officials and/or local staff LCP workshops.
- 4.4.5 Increase training on the LCP program and key coastal zone policy issues for local staff and officials as requested and feasible. Present background information on the Coastal Act and LCP implementation to local governments as requested and feasible.

In addition, the LCP program needs additional ways to evaluate plan implementation, including:

- 4.5.1 Evaluate post-certification monitoring procedures and requirements; develop recommendations for improved final local action noticing, tracking, review, evaluation, reporting, and feedback to local governments.

The initial stakeholder survey identified LCP Planning as one of the highest priority issue area for the 309 Strategy, with a need for updating outdated LCPs and for the Commission to provide additional technical assistance for and grant support for this effort. This issue will overlap with other high priority issues, as the LCPs are a key mechanism to implement the program changes related to all priority enhancement areas.

OCEAN AND GREAT LAKES RESOURCES

Section 309 Enhancement Objective: Planning for the use of ocean [and Great Lakes] resources. §309(a)(7)

Resource Characterization:

1. Understanding the ocean and Great Lakes economy can help improve management of the resources it depends on. Using Economics: National Ocean Watch (ENOW),³⁰ indicate the status of the ocean and Great Lakes economy as of 2010, as well as the change since 2005, in the tables below. Include graphs and figures, as appropriate, to help illustrate the information. Note ENOW data are not available for the territories. The territories can provide alternative data, if available, or a general narrative, to capture the value of their ocean economy.

California Ocean Economy

The tables below summarize the status of the ocean economy in California’s coastal counties in 2010, and the changes that occurred between 2005 and 2010, using ENOW data. A coastal county is defined as having shoreline on either the Pacific Ocean or San Francisco Bay and the Sacramento-San Joaquin River Delta (“Delta”). Counties with Pacific Ocean shorelines include Del Norte, Humboldt, Mendocino, Sonoma, Marin, San Francisco, San Mateo, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego. Inland counties with shorelines only on San Francisco Bay or the Delta include Sacramento, Napa, Solano, Sacramento, San Joaquin, Contra Costa, Alameda and Santa Clara. Sonoma, Marine, San Francisco and San Mateo counties have both ocean and bay shorelines.

Status of Ocean and Great Lakes Economy for Coastal Counties (2010)				
	Establishments (# of Establishments)	Employment (# of Jobs)	Wages (Millions of Dollars)	GDP (Millions of Dollars)
Living Resources	356	1,566	49.41	114.37
Marine Construction	257	5,034	392.62	722.77
Marine Transportation	1,518	78,434	6,282.09	11,667.10
Offshore Mineral Extraction	304	3,316	247.40	871.56
Tourism & Recreation	17,659	345,391	7,769.75	16,450.15
All Ocean Sectors	20,484	472,069	18,123.16	39,820.02

Change in Ocean and Great Lakes Economy for Coastal Counties (2005-2010)				
	Establishments (% change)	Employment (% change)	Wages (% change)	GDP (% change)
Living Resources	-15.04	-38.52	-35.75	-33.98
Marine Construction	-9.82	-37.10	-25.93	-30.65

³⁰ www.csc.noaa.gov/enow/explorer/. If you select any coastal county for your state, you receive a table comparing county data to state coastal county, regional, and national information. Use the state column for your responses.

Change in Ocean and Great Lakes Economy for Coastal Counties (2005-2010)				
	Establishments (% change)	Employment (% change)	Wages (% change)	GDP (% change)
Marine Transportation	-2.57	-15.19	-3.47	+14.29
Offshore Mineral Extraction	-15.08	+5.47	+22.58	+23.09
Tourism & Recreation	+3.74	+8.08	+21.68	+13.03
All Ocean Sectors	+3.15	+7.00	+23.34	+35.21

Coastal Zone Ocean Economy

The California Coastal Commission's jurisdiction is limited to a statutory Coastal Zone (as defined in the California Coastal Act of 1976) along the Pacific Ocean shoreline, specifically excluding the shoreline areas of the San Francisco Bay and Delta. However, the aggregated ENOW data for California presented above do not distinguish between Pacific Ocean and Bay-Delta coastal counties. In order to provide a more representative picture of the ocean economy within the Coastal Zone, ENOW economic data for the individual Coastal Zone counties, excluding those Bay Area and Delta counties lacking a Pacific Ocean shoreline, have been compiled in the tables below.

It is important to note that the use of individual county data introduces several complications that may affect the accuracy of the economic estimates. First, for several counties (Sonoma, Marin, San Francisco, San Mateo) the data include economic activities occurring on both Pacific Ocean and San Francisco Bay shorelines, and thus overestimate the Coastal Zone ocean economies in these counties. Second, some county-level data for individual economic sectors has at times been suppressed in order to protect the confidentiality of one or more businesses, leading to significant underestimates of economic activity in these sectors.

Status of Ocean and Great Lakes Economy for California Coastal Commission Coastal Zone Counties (2010)*				
	Establishments (# of Establishments)	Employment (# of Jobs)	Wages (Millions of Dollars)	GDP (Millions of Dollars)
Living Resources	333	1,471	45.78	102.15
Marine Construction	181	3,353	272.89	502.36
Marine Transportation	1,100	63,746	5,452.71	10,194.35
Offshore Mineral Extraction	266	2,973	224.05	797.58
Tourism & Recreation	14,691	302,525	6,970.08	14,789.44
Rounding & Suppression#	237	23,208	2,243.77	7,153.40
All Ocean Sectors	20,484	472,069	18,123.16	39,820.02

Change in Ocean and Great Lakes Economy for California Coastal Commission Coastal Zone Coastal Counties (2005-2010)*				
	Establishments (% change)	Employment (% change)	Wages (% change)	GDP (% change)
Living Resources	-15.70	-40.52	-39.25	-39.75
Marine Construction	-9.50	-43.91	-31.12	-35.51
Marine Transportation	-2.14	-15.78	-4.46	+14.06
Offshore Mineral Extraction	-8.59	+16.00	+36.17	+33.54
Tourism & Recreation	+3.63	+7.85	+21.57	+13.13
Rounding & Suppression [#]	+123.58	+955.87	+1566.50	+1816.68
All Ocean Sectors	+3.20	+7.33	+24.69	+39.46

*Counties excluded: Alameda, Contra Costa, Napa, Sacramento, San Joaquin, Santa Clara, Solano, Yolo.

[#] Local data in certain categories has, by law, been suppressed to protect the confidentiality of one or more businesses.

2. In the table below, characterize how the threats to and use conflicts over ocean and Great Lakes resources in the state's or territory's coastal zone have changed since the last assessment.

Significant Changes to Ocean and Great Lakes Resources and Uses	
Resource/Use	Change in the Threat to the Resource or Use Conflict Since Last Assessment (↑, ↓, -, unkwn)
Resource	
<i>Benthic habitat (including coral reefs)</i>	↑
<i>Living marine resources (fish, shellfish, marine mammals, birds, etc.) *</i>	↑
<i>Sand/gravel</i>	↑
<i>Cultural/historic</i>	No change
<i>Other: Natural shorelines</i>	↑
<i>Other: Water quality</i>	↑
Use	
<i>Transportation/navigation</i>	↑
<i>Offshore development³¹</i>	↑
<i>Energy production *</i>	unkwn – mixed trends
<i>Fishing (commercial and recreational)</i>	↑
<i>Recreation/tourism</i>	↔
<i>Sand/gravel extraction</i>	↑
<i>Dredge disposal</i>	↑
<i>Aquaculture</i>	↑
<i>Other: Desalination *</i>	↔

* These resources and uses are discussed in more detail under Question 4, below.

³¹ Offshore development includes underwater cables and pipelines, although any infrastructure specifically associated with the energy industry should be captured under the "energy production" category.

Sources: The trend assessments in this table are based on the resources and data listed in Question 4 (below), on workshops, presentations, reports and individual regulatory filings brought before the Coastal Commission since 2010, and on the expert opinions of Coastal Commission staff members.

3. For the ocean and Great Lakes resources and uses in Table 2 (above) that had an increase in threat to the resource or increased use conflict in the state’s or territory’s coastal zone since the last assessment, characterize the major contributors to that increase.

Major Contributors to an Increase in Threat or Use Conflict to Ocean and Great Lakes Resources														
Resource	Major Reasons Contributing to Increased Resource Threat or Use Conflict (Note All that Apply with “X”)													
	Land-based development	Offshore development	Polluted runoff	Invasive species	Fishing (Comm & Rec)	Aquaculture	Recreation	Marine Transportation	Dredging	Sand/Mineral Extraction	Ocean Acidification	Energy Production	Impacts to Living Resources	Shoreline erosion and armoring
<i>Benthic habitat</i>		X			X				X					
<i>Living marine resources</i>	X	X	X	X	X	X	X	X	X	X	X	X		
<i>Sand/gravel</i>										X				X
<i>Transportation/navigation</i>						X							X	
<i>Fishing</i>	X					X				X			X	
<i>Sand/gravel extraction</i>							X							X
<i>Dredge disposal</i>							X						X	
<i>Aquaculture</i>					X			X					X	
<i>Other: Natural shorelines</i>	X			X						X				X
<i>Other: Water quality</i>	X		X					X				X		

Sources: The information summarized in this table is based on the published resources and data listed in Question 4 (below), on workshops, presentations, reports and individual regulatory filings brought before the Coastal Commission since 2010, and on the expert opinion of Coastal Commission staff members.

4. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends of ocean and Great Lakes resources or threats to those resources since the last assessment to augment the national data sets.

Living Marine Resources

Increased threats to living marine resources, including fisheries and benthic habitats:

The living marine resources of the California coast continue to be threatened by an array of factors, including point and non-point source pollution, habitat degradation and loss in coastal areas and watersheds, overfishing and by-catch, anthropogenic noise, ship strikes, invasive species, the potential for oil spills and ocean acidification. To the extent that the impacts from these factors are cumulative or increasing, the overall threat to living marine resources is estimated to have increased since the last assessment. Moreover, the Coastal Commission has become increasingly aware of the potential for impacts to living marine resources and benthic habitat – specifically, beach and hard-substrate nearshore ecosystems – stemming from beach nourishment activities and sediment disposal, contributing to use conflicts that have generally been overlooked in the past.

A recent, overarching assessment of the status and trends of living marine resources in the California Current Large Marine Ecosystem is provided by NOAA's 2013 *California Current Integrated Ecosystem Assessment* report: <http://www.noaa.gov/iea/CCIEA-Report/index.html>

Since the last assessment there have been a number of positive developments in specific areas that have the potential to alleviate threats to living resources and reduce use conflicts. Several of these are summarized below:

Baseline monitoring of State Marine Protected Areas (MPAs):

Since the last assessment, a new report, entitled *State of the California Coast: Results from Baseline Monitoring of Marine Protected Areas 2007–2012* (Feb 2013) has been issued by the California Ocean Science Trust (COST) and state Department of Fish and Wildlife (CDFW). This report provides data from the first five years of monitoring the state marine protected area network along the central coast of California. In addition to establishing a baseline against which future trends in the marine biological resources of these areas may be assessed, the report also indicates that some species are already demonstrating increased abundance in the MPA areas and that commercial and recreational fishing continues to be an integral part of the local ocean economy across the central coast at the same time a shift towards non-extractive pursuits such as whale-watching tours appears to be occurring.

MPA Baseline Monitoring Report:

http://californiampas.org/pubs/Central_CA_MPA_results_report_2013.pdf

Federal National Marine Sanctuaries resource assessments & data:

Since the last assessment, NOAA has released a new Condition Report evaluating the status of ocean resources within the Gulf of the Farallones National Marine Sanctuary along the California coast. The Condition Report (August 2010) found “good” to “fair” conditions across most resource categories, and some improvements in measures of water quality and habitat status. New results and environmental monitoring data for Gulf of the Farallones, Cordell Bank and Monterey Bay National Marine Sanctuaries from the Sanctuary Integrated Monitoring Network (SIMoN) are also available.

Gulf of the Farallones National Marine Sanctuary Condition Report 2010:

http://sanctuaries.noaa.gov/science/condition/pdfs/gfnms_conditionreport10.pdf

SIMoN website: <http://www.sanctuarysimon.org/>

Modified shipping lanes to reduce ship strikes of whales, large marine mammals:

An effective way to reduce ship strikes is to reduce the co-occurrence of ships and whales. Several West Coast National Marine Sanctuaries (Channel Islands, Cordell Bank, Gulf of the Farallones) have worked with non-profit and academic partners and the U.S. Coast guard to modify the International Maritime Organization's (IMO) shipping lane approaches to the Los Angeles, Long Beach, and San Francisco Bay ports in order to reduce the co-occurrence of ships and whales in the San Francisco Bay area and Santa Barbara Channel. The revised California traffic separation scheme went into effect on June 1, 2013.

Santa Barbara Channel Whale Sightings and Shipping Lane Modification Maps:

http://sanctuaries.noaa.gov/protect/shipstrike/images/shipstrike_sb_060113_lg.jpg

http://sanctuaries.noaa.gov/protect/shipstrike/images/policy4_lg.jpg

Gulf of the Farallones Whale Sightings and Shipping Lane Modifications Maps:

http://sanctuaries.noaa.gov/protect/shipstrike/images/shipstrike_sf_060113_lg.jpg

http://sanctuaries.noaa.gov/protect/shipstrike/images/policy5_lg.jpg

Reduced threat of entrainment at coastal power plant cooling water intakes:

As discussed in more detail below, the State Water Resources Control Board has adopted a policy to phase out most once-through cooling systems at coastal power plants. As this policy is implemented, there will be reductions in the amount of seawater withdrawn from the ocean and coastal lagoons, which is expected to reduce the entrainment of marine organisms and improve nearshore ocean productivity in the areas near existing power plants (see below).

Energy Production

Reduced Use Conflicts from Coastal Power Plants:

The state's 2010 adoption of a policy to phase out most of California's once-through cooled power plants has resulted in a reduced threat to coastal marine biological resources (see below for a link to the policy and associated documents). Prior to adoption of the policy, the state's 19 coastal power plants were able to pull in up to nearly 16 billion gallons of seawater or bay water per day to cool their generating units. The combined effects of these power plant water withdrawals resulted in significant loss of marine life and biological productivity that extended along hundreds of miles of shoreline and through thousands of acres of the state's nearshore waters. Since adoption of the policy, four of the 19 plants have either been retired by their owners or have modified their cooling system to no longer require seawater for cooling. The policy has so far resulted in about a six billion gallon per day reduction in allowable seawater withdrawals, which provides for a substantial improvement in nearshore ocean productivity. Several more plants are scheduled to be retired or modified in the next two years, with the remaining plants scheduled to do so during a fifteen-year compliance period.

Once-Through Cooling Policy: http://www.waterboards.ca.gov/water_issues/programs/ocean/cwa316/

No change in use conflicts or threats to resources from offshore wind and wave energy: Several offshore wind or wave energy facilities have been proposed along the California shoreline, though none have progressed to date beyond the information gathering stages. Nonetheless, should any proposals complete the necessary environmental and permitting review, they will likely result in increased use conflicts over coastal resources. Since the last assessment, the state Ocean Protection Council (OPC) has released new permitting guidance for ocean renewable energy test and pilot projects (December 2011) that could influence the design of future offshore renewable energy projects to minimize resource impacts and use conflicts.

California Permitting Guidance for Ocean Renewable Energy Test and Pilot Projects:

http://opc.ca.gov/webmaster/ftp/project_pages/energy/CA%20Ocean%20Energy%20Guidance%20Paper_Final_12-15-11.pdf

Potential for increased use conflicts from offshore oil and gas production:

Based on data available through 2012, offshore oil and gas production in California state waters has remained essentially unchanged since 2010. For example, data available from the California Department of Conservation Division of Oil and Gas Resources (DOGGR) indicates that annual offshore oil production in state waters increased just slightly, from 13.0 to 13.2 million barrels, between 2010 and 2012. Approximately 70% of offshore oil production in California occurred at just one field, the Long Beach Unit of the Wilmington Oil Field, operated by the City of Long Beach in Los Angeles County. Oil and gas production on the federal outer continental shelf (OCS) offshore of California has continued its long-term, gradual decline. Oil production in federal waters declined from approximately 21.7 million

barrels in 2010 to 18.6 million barrels in 2013, the most recent year for which complete data are available. No new platforms or leases in state or federal waters have been approved that would enable significant expansion of production in the near-term.

Oil Spills

Since 2010, a number of significant oil spills have impacted California's Coastal zone. In 2012, over 35 barrels of oil was spilled into the Santa Barbara Channel from Platform Houchin. In 2013, two oil leaks into Padre Canyon Creek from pipelines at Vintage Production facilities in Ventura County were reported and cleaned up. In 2013, an orphan sheen was discovered by the California Department of Transportation on Solimar Beach adjacent to a shoreline seawall project. Emergency permits were issued by the CCC to conduct further beach investigations. In 2014, chronic hydrocarbon sheening events were discovered and monitored in the intertidal areas of Avila Beach, below the now inactive Chevron oil tank farm. Smaller spills in recreational harbors and marinas along the coast have also been regularly reported and cleaned up by appropriate responders. On May 19, 2015, a 24-inch underground oil pipeline ruptured near Refugio State Beach in Santa Barbara County, spilling over 100,000 gallons (estimates range from 101,000 – 143,000 gallons) of crude oil onto area beaches and into the Pacific Ocean. The CCC issued an emergency permit on July 6, 2015 to cover spill related response activities within the CCC's permit jurisdiction.

Well Stimulation & Hydraulic Fracturing

Since the last assessment, oil and gas production in California has generated new controversy and received heightened scrutiny due to the public realization that the use of well stimulation techniques, in particular hydraulic fracturing ("fracking") has become increasingly common in California oil fields (including offshore), with little regulation from the state or federal government, and no clear understanding of the potential environmental effects. In response to these concerns, in 2013 California enacted new legislation (Senate Bill 4, September 20, 2013) authorizing DOGGR to develop new regulations and a permitting system for well stimulation activities and collect information on the chemicals being used in these treatments. SB 4 also mandated that the state commission an independent science study of well stimulation practices and impacts in California. The new law and regulations apply to offshore well stimulation activities within state waters, which, to date, have been limited to fracking in the Long Beach Unit. The first volume of the independent science study will be released in January 2015, and it is anticipated that the completed study will provide insight into the additional use conflicts and threats to resources that have or could occur due to oil production abetted by fracking and well stimulation.

Investigations conducted by the Coastal Commission staff and several non-profit and news organizations over the past two years have also revealed that well stimulation activities have occurred in wells at several offshore platforms in federal waters, though the practice is not yet widespread.

Senate Bill 4: http://leginfo.legislature.ca.gov/faces/billNavClient.xhtml?bill_id=201320140SB4

SB 4 Interim Well Stimulation Treatment Regulations:

<http://www.conservation.ca.gov/index/Documents/Final%20Text%20of%20Readopted%20SB%204%20Interim%20WST%20Regulations%20with%20Revised%20IWSTN%20Form.pdf>

SB 4 Proposed Well Stimulation Treatment Regulations, 2nd Revision:

<http://www.conservation.ca.gov/index/Documents/Oct.%209,%202014%20final%202nd%20revised%20SB%204%20WST%20regulations.pdf>

Sand & Gravel; Natural Shorelines

Sand, gravel and sediment resources that would otherwise be added to coastal littoral cells and sustain California beaches and shorelines continue to be retained behind inland dams and debris basins in coastal watersheds, with the cumulative amount of retained sand continuing to grow. Large amounts of sand and gravel are also extracted by mining activities for use in the construction industry. California Geological Survey reports indicate that sand, gravel and crushed rock production in California has increased since 2010, and that hundreds of sand and gravel mining operations continue throughout coastal watersheds, with the largest in the San Gabriel River and Santa Ana River drainages of Southern California. Sand mining also continues at the CEMEX sand plant along southern Monterey Bay. The estimated 200,000 cubic yards of sand that are extracted annually at this site contribute to locally high rates of beach and dune erosion. Shoreline protective devices such as breakwaters, revetments and seawalls also continue to interrupt alongshore sediment movement and retain sand that would otherwise enter the littoral cells. Data gathered by Coastal Commission staff indicate that the number of shoreline protective devices and the length of armored shoreline along the California coast have increased since the last assessment.

California Geological Survey Reports:

California's Non-fuel Mineral Production in 2012:

http://www.consrv.ca.gov/cgs/minerals/min_prod/Documents/NON-FUEL_2012_Final_4-24-14.pdf

Aggregate Sustainability in California 2012 (report & map):

http://www.consrv.ca.gov/cgs/information/publications/ms/Documents/MS_52.pdf

http://www.consrv.ca.gov/cgs/information/publications/ms/Documents/MS_52_2012.pdf

Other -- Desalination:

Seawater desalination continues to receive significant attention in coastal areas of California, especially as surface water supplies have dwindled as a result of the on-going, region-wide drought. Since 2010, the developments below have modified the threat to coastal resources or use conflicts as follows:

- **State desalination policy:** After several years of policy development, the State Water Resources Control Board in 2014 released a draft policy that includes proposed requirements for the design and siting of desalination intakes and discharges. The Board plans to adopt a final policy in late 2014 or early 2015. Depending on the final policy and how it is implemented, it could result in reduced or increased threats to coastal resources; however, the policy's emphasis so far has been on identifying ways to reduce marine life effects by requiring subsurface intakes where feasible and to minimize the area of ocean waters in which a high salinity discharge could adversely affect marine organisms. Development of this policy was supported by a number of expert panels and impact studies; links are provided below:
- **Proposed desalination facilities:** Since 2010, several water purveyors and water districts have investigated the feasibility of different desalination facility designs and locations. With the emphasis on reducing marine life mortality as expressed in both the above-referenced once-through cooling policy and the draft desalination policy, most of these investigations have focused on identifying ways of constructing and operating subsurface intakes, conducting studies on the effectiveness and biological results of using different screening methods, and other similar studies.

Desalination Policy: http://www.swrcb.ca.gov/water_issues/programs/ocean/desalination/

Expert Panel on Intake Impacts and Mitigation, Final Reports:

(Oct 2013) http://www.swrcb.ca.gov/water_issues/programs/ocean/desalination/docs/erp_final.pdf

(Mar2012) http://www.swrcb.ca.gov/water_issues/programs/ocean/desalination/docs/erp_intake052512.pdf

Expert Panel on Impacts and Effects of Brine Discharges, Final Report:

http://www.swrcb.ca.gov/water_issues/programs/ocean/desalination/docs/dpr.pdf

Salinity Toxicity Study:

http://www.swrcb.ca.gov/water_issues/programs/ocean/desalination/docs/saltoxfr08012.pdf

Other -- Water Quality:

Inland and nearshore coastal waters are still affected by nonpoint source water pollution. Water quality, reduced flow volumes related to climate (e.g., on-going drought), water diversions and control structures (i.e., dams and reservoirs) and invasive species continue to cause declines in threatened and endangered fish species. New policies that have been adopted or proposed by the State Water Resources Control Board since 2010 may eventually improve water quality conditions in relation to specific discharge types (e.g., commercial vessel discharges, trash, etc.) (see “Single Sector Management Plans”, below). Decreased federal funding for the Coastal Nonpoint Source Pollution Implementation Grants program has made it more difficult for the Commission to address these issues and provide local assistance to minimize nonpoint source pollution through planning in Local Coastal Programs and regulatory decisions (i.e., coastal development permits).

California Ocean Plan, 2012 Update:

http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/cop2012.pdf

Draft Statewide Water Quality Control Plans for Trash (“Trash Amendments”):

http://www.swrcb.ca.gov/water_issues/programs/trash_control/

Ocean Plan Amendments addressing State Water Quality Protection Areas and Marine Protected Areas:

http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/oplans/copswqpa_adopted_sed_101612.pdf; http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0056.pdf

Ocean Plan Amendments addressing Vessel Discharges:

http://www.swrcb.ca.gov/water_issues/programs/ocean/docs/oplans/10162012_final.pdf;

http://www.swrcb.ca.gov/board_decisions/adopted_orders/resolutions/2012/rs2012_0057.pdf

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if any significant state- or territory-level changes (positive or negative) in the management of ocean and Great Lakes resources have occurred since the last assessment?

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these Regional comprehensive ocean/Great Lakes management plans	Y	Y	Y
State comprehensive ocean/Great Lakes management plans	N	N	N
Single-sector management plans	Y	Y	Y

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
- Describe the significance of the changes;
 - Specify if they were 309 or other CZM-driven changes; and
 - Characterize the outcomes or likely future outcomes of the changes.

Statutes, Regulations, Policies, Case Law

Marine Life Protection Act Implementation; Marine Protected Areas

Initiated in 2007 and completed in December of 2012, California’s state marine protected areas planning process (carried out under the 1999 Marine Life Protection Act) has resulted in enhanced protection for approximately 16% of coastal state waters (roughly 852 square miles) as Marine Protected Areas (MPAs). The Commission’s Coastal Management Program does not directly implement these programs but participates through intergovernmental coordination.

a. Significant changes since last assessment: Since the last assessment, regulations were implemented and MPAs became effective in three of the five study regions statewide:

- May 2010: Regulations implemented off North-Central California (Alder Creek near Point Arena in Mendocino County to Pigeon Point in San Mateo County, including the Farallon Islands); 22 MPAs, 3 State Marine Recreational Management Areas (SMRMA), 152 square miles.
- January 2012: Regulations implemented off Southern California (Point Conception to the California/Mexico border); 50 MPAs, 2 special closures, 355 square miles.
- December 2012: Regulations implemented off Northern California (California/Oregon border to Alder Creek near Point Arena); 19 MPAs, 1 SMRMA, 7 special closures, 137 square miles.

Twenty-eight MPAs (and one SMRMA) along the Central California Coast went into effect in 2007, prior to the last assessment. The fifth MPA region, the San Francisco Bay, is still under study.

b. 309 or other CZM-driven changes: These changes were not driven by Section 309 or other CZMA provisions.

c. Outcomes & Effectiveness: The designation of state MPAs establishes a higher level of protection for the marine species and habitats contained in these areas and the establishment of the MPA network is expected to help ensure that this protection extends to the settlement and recruitment of future generations of these species. Early monitoring data from the Central Coast suggests that populations of marine species are increasing within the MPAs relative to outside areas and this trend is expected to continue into the future.

National Marine Sanctuaries Act Implementation

a. Significant changes since last assessment: Since 2010, NOAA has continued to implement the National Marine Sanctuaries Act by promulgating new regulations, preparing condition reports, and proposing expansions for specific sanctuaries, among other activities. Significant changes or new information for sanctuaries in California include the following:

- Gulf of the Farallones National Marine Sanctuary Condition Report, August 2010;
- *National Marine Sanctuaries of the West Coast Ocean Acidification Action Plan*, August 2011.
- Proposed overflight regulations for Channel Islands, Monterey Bay, and Gulf of the Farallones National Marine Sanctuaries, April 2012;
- Proposed regulations on introductions of exotic species in Monterey Bay and Gulf of the Farallones National Marine Sanctuaries, March 2013; amended proposal March 2014.
- Proposed expansion of the Gulf of the Farallones and Cordell Bank National Marine Sanctuaries, April 2014.

The Coastal Commission is reviewing the proposed Gulf of the Farallones/Cordell Bank sanctuary expansion under its CZMA federal consistency authority.

b. 309 or other CZM-driven changes? These changes were not driven by Section 309 or other CZMA provisions. However, the Coastal Commission is reviewing the proposed Gulf of the Farallones/Cordell Bank sanctuary expansion under its CZMA federal consistency authority.

c. Outcomes & Effectiveness: The long-term effects of these changes remain to be seen, but it is anticipated that the proposed regulations could help limit adverse effects on living marine resources from aircraft noise and exotic species introductions, while the sanctuary expansions will extend protection to new areas.

California Ocean Protection Act Implementation

The California Ocean Protection Act of 2004 created the Ocean Protection Council (OPC), and charged it with broad duties related to the protection of ocean and coastal resources, including: (a) the coordination of state ocean resource agency activities; (b) the facilitation of scientific data collection and sharing of pertinent results; (c) the identification of changes in state and federal law and policy that would improve ocean/coastal resource protection; and (d) recommendations to the Legislature on

ocean/coastal resource policy. As a partner agency of the OPC, the Commission participates in new OPC programs through interagency coordination.

a. Significant changes since last assessment:

- In December 2011, OPC released the *California Permitting Guidance for Ocean Renewable Energy Test and Pilot Projects*;
- In 2012, OPC adopted a new five-year strategic plan, *A Vision for Our Ocean and Coast: Five-Year Strategic Plan, 2012–2017*, with a primary focus on five issue areas, including science-based decision making, climate change, sustainable fisheries and marine ecosystems, and coastal and ocean impacts from land-based sources. The Commission provided input and comments on this plan during its development.
- In March 2013 OPC presented an update to the [State of California Sea-Level Rise Guidance Document](#). The purpose of the *SLR Guidance* remains the same, to help state agencies incorporate future sea-level rise impacts into planning decisions, but has now been updated to include the best current science, as summarized in the final report from the National Academy of Sciences, [Sea-Level Rise for the Coasts of California, Oregon, and Washington](#).

b. 309 or other CZM-driven changes? These changes were not driven by Section 309 or other CZMA provisions.

c. Outcomes & Effectiveness: Unknown.

Regional Comprehensive Ocean Management Plans

West Coast Governors Agreement on Ocean Health (WCGA)

In September 2006, the Governors of California, Oregon, and Washington announced the West Coast Governors Agreement on Ocean Health (<http://www.cmsp.noaa.gov/activities/wcga.html>). The agreement launched a new, proactive regional collaboration to protect and manage the ocean and coastal resources along the entire West Coast, as called for in the recommendations of the U.S. Commission on Ocean Policy and the Pew Oceans Commission. The agreement directed staff members of the three governors to take certain immediate actions, and to develop a more extensive action plan within one year. In July 2008, the governors released the final action plan, containing 26 action items in ten topics of mutual interest. The Executive Committee established Action Coordination Teams (ACTs) for each topic to coordinate coast-wide implementation of the priorities identified under the action plan. Eight of the ten teams have completed work plans for accomplishing identified tasks, while the other two currently have draft plans undergoing public comment.

The Commission's Coastal Management Program does not directly implement this program but participates through intergovernmental coordination.

a. Significant changes since last assessment:

- In November 2010 the WCGA sponsored three workshops (one in each state) to solicit public input and ideas for a regional proposal in response to the NOAA FY 2011 Regional Ocean Partnership FFO. The workshops also helped build an understanding of technical, data, and community engagement needs to support future development of a regional framework for coastal marine spatial planning. The WCGA submitted two proposals to NOAA totaling approximately \$4.5 million to support the technical tasks needed to create a

regional CMSP framework and to provide technical and administrative support to the WCGA in working with stakeholders and action teams.

- Congress appropriated almost \$500,000 in the fiscal year 2010 NOAA budget to support the actions of the ACTs; in September 2010, WCGA awarded just under \$500,000 through a competitive process to projects proposed by eight of the ACTs to implement work plans that fulfill tasks identified in the WCGA Action Plan. Examples of projects sponsored or completed by the ACTs include a West Coast Sea Level Rise Study and a guide to sea level rise impact models for regional planners (by the Climate Change ACT), and a survey of K-12 educators in California, Oregon and Washington to identify barriers to incorporating ocean education into their curriculum (by the Ocean Awareness and Literacy ACT). Commission Staff participated directly in this latter effort. .

b. 309 or other CZM-driven changes? These changes were not driven by Section 309 or other CZMA provisions.

c. Outcomes & Effectiveness: Unknown.

Single-Sector Management Plans

Statewide Sediment Management Plan

Though not part of the Commission's Coastal Management Program, Commission staff has served as part of the Coastal Sediment Management Working Group (CSMW) since its inception, and has participated in and overseen the development of several reports and tools related to the California Coastal Sediment Management Master Plan. This Sediment Master Plan is currently being implemented through a series of regional sediment management plans (see below).

a. Significant changes since last assessment: As described in more detail in the next section, since the last assessment, several regional plans have been completed, while others continue to be developed. In June 2012, the CSMW released a status report on the progress that has been made on the regional plans, and toward achievement of the goals laid out in the statewide Sediment Master Plan. The next status report is expected in 2015.

b. 309 or other CZM-driven changes? These changes were not driven by Section 309 or other CZMA provisions. Funding for the California Coastal Sediment Management program was initiated by a grant from NOAA, and has received subsequent funding the Bureau of Ocean and Energy Management (BOEM). Current funding is provided by the U.S. Army Corps of Engineers and the California Natural Resources Agency. Commission staff participation in the CSMW was funded in part by Section 306 grant monies.

c. Outcomes & Effectiveness: Unknown. The statewide effects of these sediment management activities will likely take several years to decades to become apparent. Because these are not Coastal Commission programs the Commission is not undertaking monitoring and evaluation.

Regional Sediment Management Plans

The Commission's Coastal Management Program does not directly implement Coastal Regional Sediment Management Plans (CRSMP) but participates through the Coastal Sediment Management Working Group (CSMW), which is spearheading and coordinating the development and implementation of these plans, and through other intergovernmental coordination (See also Hazards Section).

a. Significant changes since last assessment: Since the last assessment, several CRSMPs have been completed, while others have initiated or continued the planning and development process (e.g., data collection, stakeholder input, governance policy development, preparation of environmental documents and draft CRSMP, public review):

- Southern Monterey Bay Littoral Cell CRSMP, Pt. Pinos to Moss Landing (Association of Monterey Bay Area Governments): Completed November 2008;
- Santa Barbara Littoral Cell CRSMP, Pt. Conception to Mugu submarine canyon (Beach Erosion Authority for Clean Oceans and Nourishment): Completed January 2009;
- San Diego County CRSMP, Oceanside to Mexico border (San Diego Association of Governments): Completed April 2009;
- Orange County CRSMP (County of Orange): Completed June 2013;
- Los Angeles County CRSMP (U.S. Army Corps of Engineers, USACE): Draft plan released August 2012, undergoing public review;
- Eureka Littoral Cell and Humboldt Bay CRSMP, Trinidad to Cape False Cape (Humboldt Bay Harbor Recreation and Conservation District): First public scoping in 2010, draft plan in development;
- San Francisco Open Coast Littoral Cell, Golden Gate to Pacifica (Association of Bay Area Governments): First stakeholder meetings in March 2011, draft plan in development;
- Central San Francisco Bay RSMP, central SF Bay to mouth of Golden Gate, (Bay Conservation and Development Commission, BCDC): Partially funded in 2011, undergoing scoping, gathering data, engaging stakeholders;
- Santa Cruz Littoral Cell CRSMP, Pillar Point to Moss Landing: CSMW is working with the USACE and Monterey Bay National Marine Sanctuary to develop a plan; on-going data collection, resource assessments, stakeholder outreach;
- San Luis Obispo County CRSMP: CSMW is exploring a plan for the Morro Bay Littoral Cell and adjacent areas with potential regional partner and stakeholders in San Luis Obispo County; 1st local planning meeting held September 2013;
- Crescent City/Del Norte County CRSMP: CSMW is exploring the possibility of preparing a plan for the Crescent City Littoral Cell and adjacent areas in Del Norte County.
- Sonoma County- CSMW is exploring the possibility of preparing a plan covering the littoral cells in Sonoma County.

b. 309 or other CZM-driven changes? Commission staff participation was funded in part with 306 grant monies, but funding for these programs comes from other non-CZM funding.

c. Outcomes & Effectiveness: Unknown; any effects of CRSMP implementation will likely take several years to decades to become apparent. Because these are not Coastal Commission programs the Commission is not undertaking monitoring and evaluation.

California Ocean Plan Amendments

The State Water Quality Control Board (SWRCB) has developed and periodically updates the California Ocean Plan (“Water Quality Control Plan for California Ocean Waters”) and California Inland Waters, Enclosed Bays and Estuaries Plan, which contain policies designed to control waste discharges and protect water quality along the California coast for the benefit of marine and estuarine species and public health. Authority for Ocean Plan policies comes from both the California Water Code and federal Clean Water Act. The Commission’s Coastal Management Program is not directly responsible for implementing the Ocean Plan, but Commission staff have been integrally involved in the development of several of recent or proposed plan amendments, in particular the Once-Through Cooling Policy and Desalination Policy (see below).

a. Significant changes since last assessment: Since the last assessment, the SWQCB has adopted a revised Ocean Plan containing several important amendments, and is currently in the process of developing several new policies for inclusion in future revisions:

- Policy on the Use of Coastal and Estuarine Waters for Power Plant Cooling, adopted October 2010. The policy applies to 19 existing power plants and establishes technology-based standards to implement federal Clean Water Act section 316(b) and reduce the harmful effects associated with cooling water intake structures on marine and estuarine life. Development of this policy included significant input from Commission staff, and other state agencies;
- State Water Quality Protection Area designation criteria and discharge controls and prohibitions, adopted October 2012;
- Amendment expanding Ocean Plan authority to cover discharges from ocean-going commercial vessels, adopted October 2012;
- Proposed amendments regulating *the discharge of trash (“Trash Amendments”)*; *draft staff report and proposed amendments issued June 2014; on-going public review;*
- Amendment of Ocean Plan and *Enclosed Bays and Estuaries Plan to include new policies governing desalination facilities and brine discharge (“Desalination Policy”)*; *draft staff report and proposed amendments released July 2014; on-going public review. Development of this policy included significant input from Commission staff and other state agencies.*

b. 309 or other CZM-driven changes? Commission staff participation was funded in part with 306 grant monies, but funding for these programs comes from other non-CZM funding.

c. Outcomes & Effectiveness: The newly adopted and proposed policies are expected to reduce pollutant discharges to and improve water quality in the coastal ocean, and in the case of the Once-Through Cooling Policy and Desalination Policy, greatly reduce existing and potential impacts to living marine resources associated with entrainment in power plant and desalination plant intake systems.

Oil Spill Prevention and Response

The Coastal Commission is one of several state agencies charged with developing programs to prevent and respond to oil spills in the marine environment. The Commission also reviews federal actions related to oil spills through its federal consistency authority under the CZMA. Significant activities and policy changes related to oil spills since the last assessment are summarized below:

a. Significant changes since last assessment:

- Following the 2010 BP Deepwater Horizon well blowout and oil spill, the federal Bureau of Safety and Environmental Enforcement (“BSEE”) required all the OCS platforms to review and update their Worst Case Discharge (“WCD”) “well blowout” scenarios included in their Oil Spill Response Plan (“OSRP”). BSEE has given its federal approval for each of the 2011 OSRP updates. The CCC Oil Spill Program staff is now reviewing the OSRP updates for consistency with the Coastal Act and the Commission’s prior federal consistency actions over the installation and operation of the OCS platforms.
- Oil companies operating the Santa Barbara Channel and Santa Maria Basin have funded and operated an oil spill response organization called *Clean Seas*. *Clean Seas* provides an inventory of state-of-the-art oil spill response equipment and trained personnel at all times. In 2010, *Clean Seas* underwent some major operational changes and equipment reconfigurations, replacing their two Oil Spill Response Vessels (OSRV’s), the Mr. Clean III and the Clean Ocean, with four smaller, faster OSRV’s. The Commission’s Oil Spill Program staff reviewed the proposed equipment changes and concluded these modifications improve oil spill response capability (NE-028-10).
- CCC Oil Spill Program staff reviewed and approved equipment changes on three OCS platforms since the last reporting period.
- CCC Oil Spill Program staff participates in the Regional Response Team, Region 9 (RRT9) involved in oil spill prevention, preparedness, and response in the western United States. This year (2014), updates to the Regional Contingency Plan (RCP) will be submitted to the USCG and EPA for review and approval.
- CCC Oil Spill Program staff participates in regional Area Committees and has been involved in the current updates to regional oil spill response plans, including formulation of new/alternative sensitive site response strategies.
- CCC Oil Spill Program staff is part of a statewide taskforce formed in 2009 to report to the California Legislature on California’s use of state-of-the-art technologies in oil spill prevention and response. A final report (*Best Achievable Protection through the use of Best Available Technology*) is expected to be released in 2015.
- CCC Oil Spill Program staff continues to fulfill its legislative mandate as a member of four coastal Harbor Safety Committees (HSC’s) in the development of BMP’s for improving navigation and safety along California’s coastline.
- CCC Oil Spill Program participated in several mock spill drills. During the drills CCC Oil Spill Program staff represented the agency and trained with the Liaison Officer within the Incident Command System.

- In 2013, CCC Oil Spill Program staff produced a Guidance Document entitled *Oil Spill Prevention and Response: Guidance Document for Oil and Gas Project Applications*. The purpose of the document is to provide permit applicants an explanation of the oil spill prevention and response information that is required for all oil and gas exploration, development, and transportation project applications submitted to the Coastal Commission for review and approval. Included is a discussion of the Coastal Commission’s authority and process for requiring implementation of best achievable oil spill prevention and response measures in all new or modified oil and gas projects in or affecting California’s coastal zone.
- Oil Spill Restoration Activities - Cosco Busan Oil Spill Draft Restoration Plan. CCC Staff worked with the Office of Spill Prevention and Response (OSPR) staff and National Parks staff on the review of restoration projects in the Commission’s jurisdiction, including: (1) Muir Beach (dune restoration); (2) Redwood and Grizzly Creek State Parks (marbled murrelet habitat enhancement); (3) Farallon Island (nesting site improvements for Auklets and Petrels); and (4) Recreational use projects in Marin, San Francisco, and San Mateo Counties.
- During the May 19, 2015 oil spill at Refugio State Beach, CCC Oil Spill Program staff represented the Coastal Commission on regulatory permitting matters for spill response activities in the Commission’s permit jurisdiction. A key role in the command post was to consult with other agencies and the Unified Command (UC) on the least environmentally damaging spill response measures to be implemented. The Executive Director of the CCC issued an emergency permit on July 6, 2015 to cover oil spill related response activities in the CCC’s jurisdiction.
- Within the Refugio spill command post, Oil Spill Program staff lent assistance to the Office of Spill Prevention and Response (OSPR) and the rest of the UC with the Liaison Officer function. This role was important in assisting other agencies, facilitating information exchange, and responding to issues raised by stakeholder groups. CCC Oil Spill Program staff also helped the OSPR Volunteer Coordinator with outreach efforts regarding training of community volunteers to assist in the cleanup.

b. 309 or other CZM-driven changes? The activities of the Coastal Commission Oil Spill Program are not funded under Section 309, but do represent activities of the California Coastal Management Program.

c. Outcomes & Effectiveness: The May 19, 2015 Refugio oil spill caused significant coastal resource impacts, and raises issues regarding the risk of spills along the California coast with underground pipelines. Coastal Commission Oil Spill Program staff will continue to work with the responsible party, the UC, and other trustee agencies on impact assessment and restoration activities moving forward. On-going coordination with industry, responsible agencies, and other stakeholder groups is necessary to prevent futures spills and effectively respond to them if and when they occur.

3. Indicate if your state or territory has a comprehensive ocean or Great Lakes management plan.

Comprehensive Ocean/Great Lakes Management Plan	State Plan	Regional Plan
Completed plan (Y/N) (If yes, specify year completed)	N	N
Under development (Y/N)	N	Y

Comprehensive Ocean/Great Lakes Management Plan	State Plan	Regional Plan
Web address (if available)		http://www.cmosp.noaa.gov/activities/wcga.html
Area covered by plan		CA, OR, WA

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

- High
- Medium
- Low

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

While more staff resources to increase staff capacity are needed for this program area, these issues will be of medium priority compared with some other issues facing the commission in the immediate future such as addressing sea level rise and updating Local Coastal Programs (LCPs) and not a high priority for use of Section 309 funds. At the same time new Sea Level Rise Policy Guidance and updating of LCPs will indirectly help improve implementation of Coastal Act marine resources policies.

ENERGY AND GOVERNMENT FACILITY SITING

Section 309 Enhancement Objective: Adoption of procedures and enforceable policies to help facilitate the siting of energy facilities and Government facilities and energy-related activities and Government activities which may be of greater than local significance. §309(a)(8)32

Resource Characterization:

1. In the table below, characterize the status and trends of different types of energy facilities and activities in the state's or territory's coastal zone based on best available data. If available, identify the approximate number of facilities by type. The MarineCadastre.gov may be helpful in locating many types of energy facilities in the coastal zone.

Status and Trends in Energy Facilities and Activities in the Coastal Zone				
Type of Energy Facility/Activity	Exists in CZ		Proposed in CZ	
	(# or Y/N)	Change Since Last Assessment (↑, ↓, -, unkwn)	(# or Y/N)	Change Since Last Assessment (↑, ↓, -, unkwn)
<i>Energy Transport</i>				
Pipelines ³³	Y	↑ New pipeline in Santa Barbara County to replace marine transport	N	- No new pipeline corridors have been proposed
Electrical grid (transmission cables)	Y	↑ New 230 kV substation and transmission infrastructure in Southern CA	Y	↑ There may be undersea electrical cables associated with wave energy project referenced below and additional transmission lines bringing power to the coast from energy projects located inland.
Ports	Y	↓ Approx. 20% decline in tanker/barge traffic	N	- No new ports proposed or increases in tanker/barge traffic expected
Liquid natural gas (LNG) ³⁴	N	- No LNG facilities in CA	N	- No new LNG facilities proposed
Other (Rail)	Y	↑ Small shipments of crude oil into the Coastal Zone	Y	↑ Expected increasing trend in rail deliveries of oil
<i>Energy Facilities</i>				
Oil and gas	Y	- No change	Y	↑ Proposed new production at

³² CZMA § 309(a)(8) is derived from program approval requirements in CZMA § 306(d)(8), which states:

"The management program provides for adequate consideration of the national interest involved in planning for, and managing the coastal zone, including the siting of facilities such as energy facilities which are of greater than local significance. In the case of energy facilities, the Secretary shall find that the State has given consideration to any applicable national or interstate energy plan or program."

NOAA regulations at 15 C.F.R. § 923.52 further describe what states need to do regarding national interest and consideration of interests that are greater than local interests.

³³ For approved pipelines (1997-present): www.ferc.gov/industries/gas/indus-act/pipelines/approved-projects.asp

³⁴ For approved FERC jurisdictional LNG import/export terminals: www.ferc.gov/industries/gas/indus-act/lng/exist-term.asp

Status and Trends in Energy Facilities and Activities in the Coastal Zone				
Type of Energy Facility/Activity	Exists in CZ		Proposed in CZ	
	(# or Y/N)	Change Since Last Assessment (↑, ↓, -, unkwn)	(# or Y/N)	Change Since Last Assessment (↑, ↓, -, unkwn)
				existing facilities in Santa Barbara and Los Angeles Counties
Coal	N	- No change	N	- No change
Nuclear ³⁵	Y	↓ In 2013, one of CA's 2 remaining nuclear plants shut down	N	- No new nuclear facilities proposed
Wind	Y	- Only small-scale wind projects have been built	N	↓ Two large scale wind projects proposed in the CZ have been abandoned
Wave ³⁶	N	- No change	Y	- Two preliminary permits pending with FERC
Tidal ³⁶	N	- No change	N	- None proposed
Current (ocean, lake, river) ³⁶	N	- No change	Y	↑ One permit pending with FERC
Hydropower	N	- No change	N	- None proposed
Ocean thermal energy conversion	N	- No change	N	- None proposed
Solar	Y	- No change	Y	- Continuing interest in residential, small-scale projects
Biomass	N	- No change	N	- No change
Other (please specify)				

2. If available, briefly list and summarize the results of any additional state- or territory-specific information, data, or reports on the status and trends for energy facilities and activities of greater than local significance in the coastal zone since the last assessment.

Oil & Gas Facilities

As reported for the last assessment, in 2009, the U.S. Department of the Interior (DOI) issued a Draft Proposed Leasing Program for the Outer Continental Shelf (OCS) that recommended leasing three different areas offshore of California for new oil and gas development. However, in March 2010, after requests from multiple stakeholders, including the Coastal Commission and the Governor of California, DOI removed all California lease sales from the 2012- 2017 OCS Leasing Program. In June 2014, the DOI issued a Request for Information on the 2017-2022 OCS Oil and Gas Leasing Program requesting that interested parties submit comments about the potential for new leases and to identify environmental concerns and issues related to offshore leasing. In July 2014, the Coastal Commission and the Governor of California sent letters urging the DOI to not include any new oil and gas OCS lease sales in California in the new proposed 2017-2022 OCS Oil and Gas Leasing Program.

³⁵ The Nuclear Regulatory Commission provides a coarse national map of where nuclear power reactors are located as well as a list that reflects there general locations: www.nrc.gov/reactors/operating/map-power-reactors.html

³⁶ For FERC hydrokinetic projects: www.ferc.gov/industries/hydropower/gen-info/licensing/hydrokinetics.asp

There are some existing oil and gas operators located within the coastal zone and California OCS that currently propose re-starting or expanding oil and gas production from existing facilities into existing federal and State oil and gas leases.³⁷ These project proposals are in varying stages of CEQA and/or NEPA review and will likely be scheduled for the Coastal Commission's consideration within the next couple of years.

It is also possible that oil and gas operators could seek to increase the production of oil and gas both onshore and offshore California through the use of well stimulation treatments including hydraulic fracturing and acid well stimulation. As documented in other regions of the country, new well stimulation treatments have significantly increased production of oil and gas from existing and new wells, leading to construction of additional production and processing facilities and new transportation pathways. At this time, it is uncertain whether these new techniques could result in an expansion of oil and gas production within the coastal zone or federal waters in California, although there is some evidence to suggest that the fractured formations in California are not conducive to the type of extensive and highly productive hydraulic fracturing practiced in the Midwest. With the passage of Senate Bill 4, discussed in more detail below, the State of California is in the process of conducting a scientific study on well stimulation treatments to understand the advantages and disadvantages of employing these treatments in California and to inform the development of new rules and regulations governing these practices. Until this study is completed and new regulations adopted, the potential impact of increased well stimulation treatments on oil and gas production in California is unknown.

Another new development in California is the increase in rail shipments of oil to California from states in the interior U.S. Currently, California receives over 50% of its oil supply delivered by tanker from overseas. According to the California *Office of Spill Prevention and Response*, California anticipates a significant increase in railway shipments of crude oil from other parts of the country, most notably the Bakken Shale in North Dakota, with a corresponding decrease in tanker shipments from overseas. Most of these rail shipments will terminate at refineries outside of the Coastal Zone, although there are proposals to build new infrastructure in the Coastal Zone to accommodate rail shipments of crude oil. However, a potentially more immediate effect of this change in crude supply in the Coastal Zone will be a decrease in tanker traffic into California's ports.

Coastal Power Plants

In 2010, the state of California adopted a policy to phase out most of California's once-through cooled power plants. This assessment issue is discussed under the Ocean and Great Lakes Resources section of this report.

Nuclear Power Plants

As of the last assessment, California's coastal zone contained two nuclear power plants – Southern California Edison's San Onofre Nuclear Generating Station (SONGS) and Pacific Gas & Electric Company's

³⁷ Three projects we are aware of include: (1) Venoco, Inc. (Venoco) project to restart production at the 421 pier, (2) Venoco project to slant drill into existing state leases from the Carpinteria oil and gas facility, (3) Venoco proposal to expand the South Elwood Oil Field lease, and (4) Coron project to slant drill from Platform Hogan into existing state leases

Diablo Canyon Power Plant. In July 2013, after struggling to repair leaks from both reactors at the facility, Southern California Edison announced that SONGS would be permanently shut down and decommissioned. Both reactors ceased to generate power as of October 2013, although the plant still takes in about 50 million gallons per day of ocean water to cool the spent fuel pools. Elimination of the SONGS discharge and significant decrease in the volume and eventual elimination of the plant’s intakes are expected to result in improvements to the quality and productivity of offshore marine resources. However, the State must find a way to replace the power produced by SONGS in both the short and long term. Short term power needs can be met with existing facilities, but in the long term, the California Independent Service Operator has identified the need for 2400-3700 MW of new power generation, some of which may be proposed in the Coastal Zone.

3. Briefly characterize the existing status and trends for federal government facilities and activities of greater than local significance³⁸ in the state’s coastal zone since the last assessment.

Since the last assessment, the State has seen significant increases in the extent and pace of Department of Defense military activities, in the form of physical development and training and testing activities, both onshore and offshore, in San Diego County (onshore) and Southern California Training Offshore waters. Several factors have converged to create these intensifications: increased military focus on littoral warfare, joint international training with ally nations, a desire to reduce travel time by military personnel (and allow them more “family time”), increasing efficiencies gained through combining the resources multitude of military bases in proximity to San Diego, an overall shift from Atlantic-focused training to Pacific-focused training, and, given the realities and perceptions of increased threats worldwide to the nation’s security, an overall increase in Navy and Marine Corps personnel and tempo of their training. These increases could, if not carefully planned and implemented, pose pressures on scarce and sensitive coastal zone resources.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) that could facilitate or impede energy and government facility siting and activities have occurred since the last assessment.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Statutes, regulations, policies, or case law interpreting these	Y	Y	Y
State comprehensive siting plans or procedures	Y	Y	N

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:

³⁸ The CMP should make its own assessment of what Government facilities may be considered “greater than local significance” in its coastal zone, but these facilities could include military installations or a significant federal government complex. An individual federal building may not rise to a level worthy of discussion here beyond a very cursory (if any at all) mention).

- a. Describe the significance of the changes;
- b. Specify if they were 309 or other CZM-driven changes; and
- c. Characterize the outcomes or likely future outcomes of the changes.

Changes in Statutes, regulations and policies:

a. Since the last assessment, the State of California has adopted a new law regulating well stimulation treatments (i.e., hydraulic fracturing or fracking) used to enhance oil and gas extraction. In September 2013, the Governor of California signed Senate Bill 4 which requires oil and gas operators to apply for a permit to conduct well stimulation treatments, provide state agencies with an inventory of chemicals used in these treatments, notify neighbors of permit applications, and conduct groundwater monitoring before and after well stimulation treatments. In addition, SB 4 requires the California Department of Natural Resources to conduct a scientific study that evaluates the hazards and risks of well stimulation treatments.

b. This change was not CZM-driven; however, the Coastal Commission will be reviewing and working with the California Department of Natural Resources on how results of the study will inform future regulatory analysis/decisions that the Commission could be making on future projects.

c. The results of this study will inform new rules and regulations and could have a significant impact on future oil and gas recovery in California – both onshore and offshore.

Enhancement Area Prioritization:

- 1. What level of priority is the enhancement area for the coastal management program?

High	_____
Medium	__X__
Low	_____

- 2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

While more staff resources and training to increase staff capacity are needed for this program area, energy issues will be of medium priority compared with some other issues facing the commission in the immediate future such as addressing sea level rise and updating Local Coastal Programs (LCPs). At the same time new sea level rise guidance and updating of LCPs will indirectly help improve implementation of Coastal Act energy policies.

AQUACULTURE

Section 309 Enhancement Objective: Adoption of procedures and policies to evaluate and facilitate the siting of public and private aquaculture facilities in the coastal zone, which will enable states to formulate, administer, and implement strategic plans for marine aquaculture. §309(a)(9)

Resource Characterization:

1. In the table below, characterize the existing status and trends of aquaculture facilities in the state’s coastal zone based on the best available data. Your state Sea Grant Program may have information to help with this assessment.³⁹

Type of Facility/Activity	Status and Trends of Aquaculture Facilities and Activities		
	# of Facilities ⁴⁰	Approximate Economic Value	Change Since Last Assessment (↑, ↓, -, unkwn)
All Shellfish	16 ⁴¹ to 27 ⁴²	\$17M ⁴² to \$24M ⁴¹	↑
Abalone	9 ⁴²	?	-
Oyster	18 ⁴²	\$10M ⁴²	↑
Mussel	9 ⁴²	?	↑
Manila clams	4 ⁴²	?	-

2. If available, briefly list and summarize the results of any additional state- or territory-specific data or reports on the status and trends or potential impacts from aquaculture activities in the coastal zone since the last assessment.

In April of 2013, the Pacific Shellfish Institute (PSI) released a report titled, *The Economic Impact of Shellfish Aquaculture in Washington, Oregon and California*. This report compiled data gathered through industry surveys to assess the economic impact of shellfish aquaculture production in the states of Washington, Oregon and California. The dataset used in this report is from 2010 and 2011 and provides information on the status of the industry at those times. As noted above, the report lists sixteen operators as comprising the entirety of the shellfish aquaculture industry in California in 2011 and estimates the total revenue from shellfish sales at \$23.9 million.

The more recent, *Census of Aquaculture (2013)*, released by the USDA with data collected in 2013, notes a total of 27 shellfish farms in California. This data suggests a substantial increase in the number of operations has occurred over the past several years.

³⁹ While focused on statewide aquaculture data rather than just within the coastal zone, the *Census of Aquaculture* (www.agcensus.usda.gov/Publications/2002/Aquaculture/) may help in developing your aquaculture assessment. The 2002 report, updated in 2005, provides a variety of state-specific aquaculture data for 2005 and 1998 to understand current status and recent trends. The next census is scheduled to come out late 2014 and will provide 2013 data.

⁴⁰ Be as specific as possible. For example, if you have specific information of the number of each type of facility or activity, note that. If you only have approximate figures, note “more than” or “approximately” before the number. If information is unknown, note that and use the narrative section below to provide a brief qualitative description based on the best information available.

⁴¹ Northern Economics, Inc., *The Economic Impact of Shellfish Aquaculture in Washington, Oregon and California*. Prepared for the Pacific Shellfish Institute. April 2013.

⁴² US Department of Agriculture, *Census of Aquaculture (2013)*. September 2014. NOTE: some facilities or operations cultivate multiple species.

A similar level of increase has also been reflected in the number of coastal development permit applications recently submitted to the California Coastal Commission for shellfish aquaculture operations. Commission staff has processed a greater number of permits (six) in the last several years than during the previous Section 309 assessment cycle and current indications suggest that this trend of expanding interest in aquaculture development will continue. For example, Commission staff is currently involved in early consultation, agency coordination, and preliminary environmental review activities with three significant pending aquaculture projects that, if approved as proposed, would increase commercial shellfish aquaculture operations by over 1,000 acres and initiate the first commercial finfish culture operation in marine waters on the west coast of the United States. These projects represent the most significant growth and expansion of marine aquaculture development in California since establishment of the Coastal Management Program.

In addition, Commission staff has recently completed a permitting status review of existing aquaculture operations in California marine and estuarine waters which suggests that a large number of these farms may be operating without necessary authorizations. The Commission staff is starting to work with these aquaculture operators to obtain coastal development permits and other necessary authorizations.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any state- or territory-level changes (positive or negative) that could facilitate or impede the siting of public or private aquaculture facilities in the coastal zone.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Aquaculture comprehensive siting plans or procedures	Y	N	Y
Other aquaculture statutes, regulations, policies, or case law interpreting these	Y	N	Y

2. For any management categories with significant changes, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information:
 - a. Describe the significance of the changes;
 - b. Specify if they were 309 or other CZM-driven changes; and
 - c. Characterize the outcomes or likely future outcomes of the changes.

a. Commission staff has for the past year been engaged with industry representatives and state and federal resource agency staff in the California Shellfish Initiative, an industry initiated process to develop recommendations and guidelines for increasing the efficiency of the multi-agency permitting process for aquaculture in California and for facilitating communication among state and federal review agencies. This initiative has the potential to result in modifications to agency review procedures (for example,

through establishment of joint review committees for sharing information and collaboratively considering issues associated with aquaculture development).

Further, through its review and consistency certification concurrence last year on the first open ocean shellfish farm in federal waters off of California, the Commission established a process that can be applied to the Commission's review of future offshore aquaculture proposals. Primary elements of this process came about through the creation of a coordination framework for enhancing transparency and stakeholder participation in the Commission staff review process; identification and investigation of key coastal resource issues associated with this type of development; and the implementation of an adaptive management and monitoring process to allow for the testing and validation of management and assessment assumptions as well as ongoing experience-based refinement of operations and resource protection protocols.

b. None of these changes were 309-driven but the Commission's CZM authority played a significant role in the offshore project noted above.

c. The outcome is expected to be an improved and more efficient process.

Enhancement Area Prioritization:

1. What level of priority is the enhancement area for the coastal management program?

High _____
Medium _____X_
Low _____

2. Briefly explain the reason for this level of priority. Include input from stakeholder engagement, including the types of stakeholders engaged.

Substantial progress has been made in recent years to develop and establish a management and regulatory framework that will help provide for the sustainable growth of this industry and provides a solid foundation for the consideration and analysis of future aquaculture projects. For the most part, the regulations and standards that exist, the species currently being cultivated and the methods of cultivation and harvest that are employed most commonly appear to adequately minimize and/or mitigate the potential use conflicts and adverse environmental impacts associated with shellfish aquaculture.

PHASE II ASSESSMENT – PRIORITY AREAS

For any enhancement areas ranked as a high priority after the Phase I assessment, the Commission is required to conduct a Phase II (in-depth) assessment to further explore potential problems, opportunities for improvement, and specific needs using the Phase II templates provided in the Section 309 Program Guidance. The high priority needs identified in the Phase II assessment will also provide important information for OCM in their planning activities.

WETLANDS

In-Depth Resource Characterization:

Purpose: To determine key problems and opportunities to improve the CMP’s ability to protect, restore, and enhance wetlands.

1. What are the three most significant existing or emerging physical stressors or threats to wetlands within the coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout the coastal zone or specific areas that are most threatened? Stressors can be development/fill; hydrological alteration/channelization; erosion; pollution; invasive species; freshwater input; sea level rise/Great Lake level change; or other (please specify). When selecting significant stressors, also consider how climate change may exacerbate each stressor.

	Stressor/Threat	Geographic Scope (throughout coastal zone or specific areas most threatened)
Stressor 1	Sea level rise	Throughout the coastal zone, but with areas experiencing local or regional subsidence or vertical land motion—such as Humboldt Bay—will be threatened the soonest.
Stressor 2	Development/fill	Development/fill have affected wetlands throughout the coastal zone, with recent interest and proposals for significantly expanded development and fill associated with shellfish aquaculture in intertidal wetlands focused primarily in Humboldt and Tomales Bays.
Stressor 3	Introduced species	Throughout the coastal zone. Climate change may alter the range of various invasive species with changes to temperatures, nutrient inputs, and other environmental factors.

2. Briefly explain why these are currently the most significant stressors or threats to wetlands within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Stressor 1: Sea Level Rise: Sea level rise is affecting and will continue to affect the entire coastline of California, but certain regions are expected to be more severely impacted sooner than others. In March 2013, the Ocean Protection Council adopted a revised State of California Sea-level Rise Guidance Document (2013) that established the NRC 2012 report, *Sea Level Rise for the Coasts of California, Oregon and Washington: Past Present and Future*, as the best available science on sea-level rise for California. This report divides the California coast at Cape Mendocino due to tectonic differences

between the two regions and provides a different set of sea level rise projections for each, with relative rates of sea level rise being slightly lower north of the Cape due to regional uplift at the Cascadia Subduction Zone. The exception to this difference is Humboldt Bay's North Spit and the Eel River Estuary, which is located north of the Cape but is experiencing local subsidence.

Sea-level rise will lead to wetland habitat conversion and loss as the intertidal zone shifts inland. Of particular concern is the loss of saltwater marshes from sea-level rise, which have already decreased by about 90% from their historical levels in California (CA Natural Resources Agency, 2010). California's 550 square miles of critical coastal wetland habitat (Heberger et al., 2009) could be converted to open water by 1.4 meter rise of sea level if they are not able accrete upward or to migrate inland due to natural or anthropogenic barriers. Although migration barriers are plentiful, inland migration of these wetlands is possible for over 50% of the potentially inundated wetland area based on land use compatibility alone, although this varies geographically (Heberger et al., 2009). Consideration of adequate sediment supply and additional barriers to inland migration would further constrain wetland migration potential. A 1.4 meter increase in sea level would flood 150 square miles of land immediately adjacent to wetlands, which could become future wetlands if that land remains undeveloped. Loss or reduction of wetland habitat would impact many plant and animal species, including migratory birds that depend on these habitats as part of the Pacific Flyway. Species that are salt-tolerant may have an advantage as sea-level rise occurs, while species that have narrow salinity and temperature tolerances may have difficulty adapting.

References:

California Natural Resources Agency. (2010). State of the State's Wetlands: 10 Years of Challenges and Progress. http://resources.ca.gov/ocean/SOSW_report.pdf

Heberger, M., Cooley, H., Herrera, P., Gleick, P. H., & Moore, E. (2009). The Impacts of Sea-level Rise on the California Coast. Prepared by the Pacific Institute for the California Climate Change Center.

National Research Council (NRC), Committee on Sea Level Rise in California, Oregon, and Washington. (2012). Sea-Level Rise for the Coasts of California, Oregon, and Washington: Past, Present, and Future. National Academies Press, Washington, D.C. pp.250. ISBN 978-309-24494-3.

Stressor 2: Development/fill

Development and associated fill have historically been the largest threat to California's wetlands. Prior to intensive development, there were an estimated 5 million acres of wetlands of various types throughout the state, including both coastal and inland wetlands and vernal pools. By the 1980s, that number had decreased by about 90% to 450,000 acres, and today the 300,000 acres that still exist are largely confined to the Central Valley, with just five percent of coastal wetlands remaining. While the pressure from development still exists, California has robust legislation and regulatory programs that severely limit further fill of wetlands and encroachment from development. The following laws and agency efforts address wetland definition, delineation, and regulation in some form: Clean Water Act (1972), the Keene-Nejedly California Wetlands Preservation Act (1976), the Porter-Cologne Water Quality Control Act (1969), the California Coastal Act (1976), the McAtteer-Petris Act (1965), and the Suisan Marsh Protection Act (1974), among others. Additionally, in 1993, Governor Wilson issued

Executive Order W-59-93, establishing California's "no net loss" policy. However, despite these efforts and regulations, development pressure from some sectors such as shellfish aquaculture has increased significantly in recent years. For example, the Humboldt Bay Pre-Permitting Project (link to [Draft EIR](#)) and Coast Seafoods Expansion Project (link to [Draft Initial Study](#)) could result in up to 1200 acres of development and fill in the intertidal wetlands of northern Humboldt Bay.

Focusing on the CZMP specifically, the California Coastal Act requires that most development avoid and buffer wetlands, and limits the filling of wetlands to high priority uses including certain boating facilities, public recreational piers, restoration, nature study, and incidental public services (such as burying cables or pipes). Any wetland fill must be avoided unless there is no feasible less environmentally damaging alternative, and authorized fill must be fully mitigated, typically at a 4:1 mitigation ratio. The McAteer-Petris Act also generally limits fill or excavation of wetlands to water-dependent projects where no feasible upland alternatives exist, and only if wetlands impacts are mitigated. Therefore, with these robust programs now in place, California's remaining wetlands are fairly well protected and wetland loss has dramatically slowed (see Phase 1 assessment for statistics). According to the California Coastal Commission's recent stakeholder survey, wetlands rank below coastal hazards, public access and recreation, and local coastal programs as priorities for the state's Coastal Management Program. However, some stakeholder feedback highlighted the opportunity to use wetlands in green infrastructure projects and other sea level rise preparedness efforts, indicating that wetland restoration and enhancement is similarly important to some Californians as preventing wetland fill and loss.

References:

California Natural Resources Agency. (2010). State of the State's Wetlands: 10 Years of Challenges and Progress. http://resources.ca.gov/ocean/SOSW_report.pdf

Stressor 3: Invasive species

Invasive species are also generally recognized as a threat to wetland habitats. The tendency of wetlands to accumulate debris, sediments, water, and nutrients can actually facilitate invasions by creating conditions suitable for opportunistic invasive species. Once present, invasive species can alter community structures, change food webs, alter nutrient cycles and, oftentimes, decrease biodiversity. The Coastal Commission has identified two invasive species particularly relevant to California wetlands: *Didemnum sp.*, an invasive marine tunicate that grows from the intertidal zone to depths of about 65 meters, and *Spartina sp.*, an invasive cordgrass that affects tidal marshes in particular.

Didemnum sp. was first documented in US waters in 1993 in the San Francisco Bay and the Damariscotta River in Maine. Subsequent sightings have occurred in Humboldt Bay, Bodega Harbor, Tomales Bay, Drake's Estero, San Francisco Bay, Half Moon Bay, Elkhorn Slough, Morro Bay, and the Port of San Luis (exoticsguide.org). The tunicate encrusts hard substrates like docks, floats, pilings, mooring ropes, ship hulls, and rocky and gravel marine substrate, often overgrowing existing invertebrate communities, including tunicates, sponges, macroalgae, hydroids, anemones, bryozoans, scallops, mussels, and oysters. Ominously, it has recently been observed growing on seagrass – both in estuaries in New England (Carman and Grunden 2010, Carman et al. 2014) and northern California (Long 2013, Stalker 2013). *Didemnum sp.* is posing a threat to marine ecosystems and challenges for fishing, aquaculture, and other coastal activities.

Invasions of the seventeen *Spartina* species have been occurring for the past two centuries all over the world, including marshes from California to British Columbia. These dense-flowered cordgrasses have dramatically changed tidal marshes, outcompeting and displacing native vegetation and decreasing biodiversity. They convert mudflats to vegetated marsh, which reduces foraging habitat for shorebirds, and increases the stem and root density in marsh habitat, which impacts the habitat available to marsh animals. Several large-scale efforts to control *Spartina* have occurred on the US west coast; however, it is still affecting marshes up and down the state, including Humboldt Bay and the Mad River and Eel River estuaries. Due to the magnitude of the problem posed by *Spartina*, the West Coast Governors' Alliance has identified the eradication of non-native cordgrass as part of their second priority area in the Agreement on Ocean Health Action Plan.

References:

Carman MR, Grunden DW (2010) First occurrence of the invasive tunicate *Didemnum vexillum* in eelgrass habitat. *Aquatic Invasions* 5: 23–29. doi: 10.3391/ai.2010.5.1.4

http://www.aquaticinvasions.net/2010/AI_2010_5_1_Carman_Grunden.pdf

Carman, M.R., Grunden, D.W., and Ewart, D. 2014. Coldwater reattachment of colonial tunicate *Didemnum vexillum* fragments to natural (eelgrass) and artificial (plastic) substrates in New England. *Aquat. Invasions* 9(1):105-110.

https://darchive.mblwhoilibrary.org/bitstream/handle/1912/6865/AI_2014_Carman_etal.pdf?sequence=1&isAllowed=y

Long, H. A. (2013). Interaction of the invasive tunicate *Didemnum vexillum* and eelgrass (*Zostera marina*) in the intertidal zone of Tomales Bay, California (Order No. 1546228).

<http://gradworks.umi.com/15/46/1546228.html>

Stalker, J. 2013. Survey of the presence, relative abundance, and substrate use of *Didemnum vexillum* (Dvex) in Drakes Estero 2013.

<https://app.box.com/s/xgx24ewzihecw0hs0211>

- Are there emerging issues of concern but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Identifying viable restoration/mitigation sites	Locations of viable wetland restoration sites, especially considering the effects of future climate change.
Drought associated with climate change	How decreases in freshwater input or changes to the rate and frequencies of freshwater inputs affect various wetlands types, in the context of climate change and the associated droughts in California.

Emerging Issue	Information Needed
Ocean acidification	Coordinate with the NERRS to research forecasting ocean acidification along the California coast and potential effects on tidal wetlands.

In-Depth Management Characterization:

Purpose: To determine the effectiveness of management efforts to address identified problems related to the wetlands enhancement objective.

1. For each additional wetland management category below that was not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred since the last assessment.

Management Category	Employed By State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Wetland assessment methodologies	Y	Y	Y
Wetland mapping and GIS	Y	N	Y
Watershed or special area management plans addressing wetlands	Y (through LCPS)	Y	Y
Wetland technical assistance, education, and outreach	Y	Y	Y
Other (please specify): CCC Draft SLR Guidance	Y	Y	Y

2. For management categories with significant changes since the last assessment, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.
 - a. Describe significant changes since the last assessment;
 - b. Specify if they were 309 or other CZM-driven changes; and
 - c. Characterize the outcomes or likely future outcomes of the changes.

Wetland assessment methodologies

Army Corps Plant List

a. In 2012, the Army Corps of Engineers adopted the National Wetland Plant List, created and updated in partnership with the Biota of North America Program. This list was updated in 2014. It includes all known wetland plant species in the 50 U.S. states, the District of Columbia, and the U.S. Caribbean and

Pacific islands that are territories of the U.S., and the data are organized into ten regions that coincide with Corps wetland delineation regions. As of the year 2015, 8,015 plants were included. (Citation: Lichvar, R.W., M. Butterwick, N.C. Melvin, and W.N. Kirchner. 2014. The National Wetland Plant List: 2014 Update of Wetland Ratings. *Phytoneuron* 2014-41: 1-42.) The list is used in wetland delineation, wetland restoration and research, and the development of compensatory mitigation goals, as well as in providing general botanical information about wetland plants. The distribution of plant species can be viewed on the Army Corps' webpage: http://wetland_plants.usace.army.mil/

b. No.

c. Since the new list is electronic and web-based, it can be frequently updated, which contributes significantly to improved wetland delineation and restoration.

State Water Resources Board wetland definition

See Phase 1 assessment Management Characterization, "Draft Water Quality Control Policy for Wetland Area Protection and Dredged or Fill Permitting."

2014 National Marine Fisheries Service California Eelgrass Mitigation Policy and Implementing Guidelines

a. In October 2014, the final version of the California Eelgrass Mitigation Policy and Implementing Guidelines (CEMP) was adopted. These guidelines are an update to the 2011 Draft California Eelgrass Mitigation Policy and replace the Southern California Eelgrass Mitigation Policy, which was adopted in 1991. This document includes a clear policy statement: "It is NMFS' policy to recommend no net loss of eelgrass habitat function in California." The CEMP compensatory 1.2:1 mitigation guidelines for eelgrass impacts and guidelines for comprehensive management plans, in-kind mitigation (the preferred option), mitigation banks and in-lieu-fee programs, and out-of kind mitigation. The document also includes background information, the relationship of the document to other federal and state policies, and methodologies for surveying eelgrass, avoiding impacts, assessing impacts to eelgrass habitat, in-kind mitigation, and more.

b. No, but the Coastal Commission submitted a comment letter during the public comment period.

c. Consistent and improved approach for avoiding and minimizing impacts to eelgrass and mitigating eelgrass impacts in all regions of the state and that can be employed across regulatory agencies in California.

Wetland and Riparian Area Assessment Plan (WRAMP) toolkit

a. In June 2010, the California Wetlands Monitoring Workgroup, as endorsed by the California Water Quality Monitoring Council, launched the Wetland and Riparian Area Monitoring Plan (WRAMP) with the goal of creating a consistent approach to wetland classification, mapping, and monitoring that will allow for statewide assessments of wetland extent and condition. The goal of the WRAMP is to produce regular reports on trends in wetland extent and condition and to relate these trends to management actions, climate change, and other natural and anthropogenic factors in way that informs future decisions. WRAMP offers three tools that vary in geographic scope, including a landscape assessment (Level 1), a rapid assessment (Level 2), and an Intensive Site Assessment (Level 3). The California EcoAtlas is a web-based tool to integrate information across the three levels of information required by

WRAMP and will serve as the user interface for WRAMP. One can use EcoAtlas to find wetlands, view wetland restoration project information, and view information captured through the 1-2-3 framework.

b. 309 or CZM driven: Yes, in that the State Coastal Conservancy is one of the participating agencies.

c. Likely future outcomes: Better coordination between agencies working on wetland conservation, and the accomplishment of identified milestones and deliverables.

California Rapid Assessment Method (CRAM): Version 6.0

a. In March 2012, Version 6.0 of the CRAM Method was released. CRAM is a field-based tool that qualitatively assesses the overall condition of a wetland. It is one of three hierarchical tools, or levels for assessing wetlands, offered by the California Wetlands Monitoring Workgroup's Wetland and Riparian Area Monitoring Plan (WRAMP). Level 1 consists of habitat inventories and landscape profiles, such as wetland mapping in coordination with the National Wetlands Inventory (NWI). CRAM, the second level, was designed to be a cost-effective qualitative method to assess ambient conditions of wetlands within regions and ultimately across the state of California. Level 3 is quantitative ecological monitoring of individual wetlands. The development of each new version of CRAM is overseen by the statewide Level 2 Committee of the California Wetland Monitoring Workgroup (CWMW). CRAM assesses four overarching attributes of wetland condition: Buffer and Landscape Context, Hydrologic Regime, Physical Structure, and Biotic Structure. Each attribute is related to several attribute-specific metrics and submetrics that are evaluated in the field and given a score between 25 and 100, and the attribute scores are averaged to produce an overall index score. The final score reflects quality of the functions and services expected for the type of wetland being assessed.

b. Yes, in that funding for initial CRAM development was provided to the San Francisco Estuary Institute, the Southern California Coastal Water Research Project, and the California Coastal Commission through USEPA contracts CD-96911101-0, CD-96911201-0, and CD-96911301-1, respectively. Coastal Commission staff also participated in the development and testing of this method. However, the Commission requires and finds that level 3 ecological monitoring is necessary to track individual wetland restoration and mitigation projects because CRAM is not designed to provide the type of data necessary for evaluating quantitative success criteria. However, CRAM may not be fully transferable to the coastal zone because they do not provide the quantitative assessment necessary for assessing environmental impacts or mitigation success and does not fully comport with the wetland definition and policy requirements under the Coastal Act.

c. CRAM provides a basis for assessing wetland conditions within and across regions and for documenting changes over time. However, the Commission requires and finds that level 3 ecological monitoring is necessary to track individual wetland restoration and mitigation projects because CRAM is not designed to provide the type of data necessary for evaluating quantitative success criteria. CRAM may not be fully transferable to the coastal zone because they do not provide the quantitative assessment necessary for assessing environmental impacts or mitigation success and does not fully comport with the wetland definition and policy requirements under the Coastal Act.

Wetland mapping and GIS

Cal EPA and Resources Agency website

a. CalEPA offers a mapping tool

http://www.mywaterquality.ca.gov/eco_health/wetlands/extent/mapping.shtml# that includes wetland inventory datasets collected in 2011 from the USGS National Hydrography Dataset and the NFWs National Wetland Inventory, producing wetland maps for about 75% of the State – almost 123,000 square miles—as well as a very significant portion of the coastal zone. This effort has been continued by a group of wetland managers, agency staff, and scientists now partnering to develop the California Aquatic Resource Inventory, or CARI, includes a draft standard methodology and classification system which can now be used to build the statewide GIS dataset and map with a common classification method. The website was last updated in 2013.

b. No, because this effort did not include the CCC, BCDC, or SCC.

c. The final outcome will be a centralized map of current wetlands, plus a standard methodology and classification system.

Watershed or special area management plans addressing wetlands

a. Since 2009 the Commission certified 3 new LCPs for local LCP segments, which included wetland and resource protections policies and ordinances. Approximately 17 LCPs have been comprehensively or partially updated and some of those may have updated wetland and resource protection policies. And, 23 LCP planning grants for completion or update of LCPs have been awarded.

b. Yes, these efforts are CZM-driven, although there were not 309 funded. The Commission provided significant staff support in these LCP planning efforts.

c. These certified LCPS now provide the regulatory framework and standards for review of coastal development permits that may involve wetland resources.

Wetland technical assistance, education, and outreach

California Coastal Commission Training for Monterey County Planners: Coastal Act Protections for Wetlands and Sensitive Habitats

a. On September 15, 2014, Coastal Commission staff conducted a training for planners at the County of Monterey on Coastal Act protections for wetlands and sensitive habitats, including discussions of the definition and delineation of ESHA in the California Coastal Zone, and the LCP update process.

b. Yes, as a CCC action, this project was part of the CZMP, though it was not funded through a 309 grant specifically.

c. Improved understanding of Coastal Commission guidance and related resources for updating Local Coastal Plans, including ESHA issues pertinent to northern Monterey County, and improved understanding of identification delineation, and protection of Coastal Act protected wetlands and other ESHA, with a focus on northern Monterey County.

California Coastal Commission Training for CalTrans District 1 Staff

a. On November 8, 2011, Coastal Commission staff conducted a training for Caltrans District 1 staff covering: 1) General Introduction to the California Coastal Program, 2) Review of Coastal Act Policies that Frequently Come into Play with Caltrans Projects, 3) Shoreline Development--Sea Level Rise,

Flooding, Waves, and Tsunamis—CDP Projects and Statewide Adaptation Efforts, 4) Coastal Act Requirements for Wetlands and Environmentally Sensitive Habitat Areas (ESHA), 5) Scientific Approach to wetland delineation, and 6) Successful integration of CCC review processes in relation to Caltrans planning and project design/delivery processes.

b. Yes, as a CCC action, this project was part of the CZMP, though it was not funded through a 309 grant specifically.

c. Improved coordination among Coastal Commission and Caltrans District 1 staff.

Coastal Commission Briefing on the Definition and Delineation of Wetlands in the Coastal Zone

a. On October 4, 2011, Coastal Commission staff conducted a public workshop about the definition and delineation of wetlands. This workshop included a summary memo (<http://documents.coastal.ca.gov/reports/2011/10/W4-10-2011.pdf>) that includes sections describing 1) the ecological values and ecosystem services provided by wetlands, 2) the one-parameter definition of wetlands used by the Coastal Commission and the federal government, including the US Fish and Wildlife Service, and 3) the three-parameter definition used by the Army Corps of Engineers.

b. Yes, as a CCC action, this project was part of the CZMP, though it was not funded through a 309 grant specifically.

c. Clear information about the various ways wetlands are delineated, along with a rationale for spite specific delineation of wetlands, disseminated to a wide audience.

Other

California Coastal Commission Sea Level Rise Policy Guidance

a. On October 14, 2013 the California Coastal Commission released the Draft Sea-Level Rise Policy Guidance. This document provides guidance on how to incorporate sea level rise into projects in the coastal zone that require a Coastal Development Permit as well as Local Coastal Programs, the plans adopted by all cities and counties lying wholly or partially in the coastal zone. The document discusses potential impacts from sea level rise to coastal resources, including wetlands. It includes strategies to minimize current and future impacts to wetlands from development considering the influence of sea level rise. Commission staff received substantial comments on the draft document that we then addressed in the final document. The final Sea Level Rise Policy Guidance Document Commission was unanimously adopted by the Coastal Commission in August 2015.

b. Yes, the Sea Level Rise Policy Guidance was funded in part by a 309 grant.

c. Incorporation of sea level rise analysis and adaptation into projects and planning documents in the coastal zone, including those projects and plans affecting wetlands.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's or territory's management efforts in protecting, restoring, and enhancing coastal wetlands since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's or territory's management efforts?

The California Wetland Monitoring Workgroup (CWMW) was established in 2008 as part of the California Water Quality Monitoring Council, a partnership of 24 state and federal agencies and non-governmental organizations. Its mission is to improve monitoring and assessment of wetlands and riparian habitats by developing a comprehensive wetland monitoring plan for California and increase coordination among agencies and organizations performing that work. The group has three main products, including WRAMP, CRAM, and EcoAtlas, the latter of which compiles maps and monitoring results for the state. The website www.mywaterquality.ca.gov offers reports and factsheets regarding the state of California's wetlands.

The CWMW's charter, updated in 2014, speaks to the effectiveness of the of the state's or territory's management efforts in protecting, restoring, and enhancing coastal wetlands, and describes the need for further work. Conducting this needed work is one of the on-going goals of the CWMW:

Various state government policies recognize this need yet, in California, no single agency has authority over aquatic resources. Regulation of wetlands and other aquatic resources falls under the authority of six state and federal agencies, and wetland management is conducted by innumerable agencies, entities, and private land owners. To add to this complexity, multiple programs within an agency may have authority or regulatory control over wetlands. A need exists to implement standardized monitoring and assessment tools and approaches within state and federal agencies in California. This will allow programs to leverage their efforts at compiling information on the extent and condition of wetlands in California, allowing us to answer the question, "Where are California's wetlands and how are they doing?" The resultant data can be used to better manage wetland and riparian resources, evaluate program efficacy, and facilitate improved coordination and communication within and between agencies.

A comprehensive report on the effectiveness of the CWMW itself has not been issued as of March 2015. The CWMP website offers reports of several disparate topics, including "What is the status of wetland mapping?" "What studies have documented wetland condition?" and many more. Continued support of the CWMW and other similar organizations and partnerships will lead to a fuller understanding of the effectiveness of the of the state's or territory's management efforts in protecting, restoring, and enhancing coastal wetland.

Identification of Priorities:

1. Considering changes in wetlands and wetland management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to more effectively respond to significant wetlands stressors. (*Approximately 1-3 sentences per management priority.*)

Management Priority 1: Wetland Restoration

Description: Because California has lost approximately 90% of its historical wetlands, wetland restoration projects that restore both wetland acreage and the important ecological functions of

these habitats are a priority for the state. This necessitates identifying potential viable restoration sites (considering that some potential sites could convert to deep water habitat with sea level rise), and understanding site- or region-specific impacts to wetlands and potential future impacts resulting from climate change. A guidance document on coastal wetland restoration projects that includes consideration of both current and future sea level conditions would be useful. Such guidance should also consider existing regulatory obstacles to funding and implementation of wetland restoration and evaluate potential strategies to address these challenges. Opportunities exist to coordinate with the National Estuarine Research Reserves (NERRS) in California to leverage existing restoration science and programs.

Management Priority 2: Balancing wetland protection and enhancement with aquaculture development

Description: Aquaculture is an emerging use of California’s coastal zone. In Humboldt County in particular, aquaculture development and related permit applications have accelerated in recent years. Research on how to minimize the impacts of aquaculture development on marine resources and wetlands is therefore an important management priority for the state.

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here do not need to be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Research	Y	Potential impacts of various aquaculture types to coastal waters of California and how to minimize or prevent those impacts.
Mapping/GIS		
Data and information management	Y	Integrate datasets from various state agencies into a centralized hub.
Training/capacity building		
Decision-support tools		
Communication and outreach	Y	Guidance and outreach document for wetland restoration that incorporates sea level rise considerations and strategies to address potential regulatory obstacles to restoration project funding and implementation.
Other (Specify)		

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?

Yes	<u> </u>
No	<u> X </u>

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

The initial stakeholder survey ranked Hazards, Access, and LCPs as more pressing issue areas than Wetlands. Therefore, in order to provide focused strategies on the timeliest issues facing the California coast, staff chose to omit Wetlands as a unique, specific strategy of the 2016-2020 309 Assessment and Strategy. However, under the Strategy for Special Area Management Planning (LCPs), the strategy includes training activities to enhance the update of the LCPs. These training tasks could include LCP guidance across any of the priority enhancement areas, including Wetlands. Therefore the Communication and Outreach gaps and needs identified in this assessment could be addressed through the SAMP/LCP strategy.

COASTAL HAZARDS

In-Depth Resource Characterization:

Purpose: To determine key problems and opportunities to improve the CMP's ability to prevent or significantly reduce coastal hazard risks by eliminating development and redevelopment in high-hazard areas and managing the effects of potential sea level rise and Great Lakes level change.

1a. **Flooding In-depth** (for all states besides territories): Using data from NOAA's *State of the Coast* "Population in the Floodplain" viewer⁴³ and summarized by coastal county through NOAA's Coastal County Snapshots for Flood Exposure,⁴⁴ indicate how many people at potentially elevated risk were located within the state's coastal floodplain as of 2010. These data only reflect two types of vulnerable populations. You can provide additional or alternative information or use graphs or other visuals to help illustrate or replace the table entirely if better data are available.

2010 Populations in Coastal Counties at Potentially Elevated Risk to Coastal Flooding				
	Under 5 and Over 65 years old		In Poverty	
	# of people	% Under 5/Over 65	# of people	% in Poverty
Inside Floodplain	134,614	19%	94,598	13%
Outside Floodplain	3,542,508	18%	2,701,897	14%

*Data for Table 1.a obtained via the CZMA 309 FTP site, File name: UPDATED Population Statistics In and Out of Floodplain

1b. **Flooding In-depth** (for all states besides territories): Using summary data provided for critical facilities, derived from FEMA's HAZUS⁴⁵ and displayed by coastal county through NOAA's Coastal County Snapshots for Flood Exposure,⁴⁶ indicate how many different establishments (businesses or employers) and critical facilities are located in the FEMA floodplain. You can provide more information or use graphs or other visuals to help illustrate or replace the table entirely if better information is available.

Critical Facilities in the FEMA Floodplain						
	Schools	Police Stations	Fire Stations	Emergency Centers	Medical Facilities	Communication Towers
Inside Floodplain	197	30	19	0	3	25
Outside Floodplain	6832	432	350	22	250	382
Total	7029	462	369	22	253	407

*Data for Table 1b obtained via the Coastal County Snapshots

[The data provided for both Tables 1a and 1b reflect only those counties within the Coastal Commission's jurisdiction (Del Norte, Humboldt, Mendocino, Sonoma*, Marin*, San Francisco*, San Mateo*, Santa Cruz, Monterey, San Luis Obispo, Santa Barbara, Ventura, Los Angeles, Orange, and San Diego). The *noted Counties

⁴³ <http://stateofthecoast.noaa.gov/pop100yr/welcome.html>

⁴⁴ <http://www.csc.noaa.gov/digitalcoast/tools/snapshots>

⁴⁵ <http://www.fema.gov/hazus>; can also download data from NOAA STICS <http://www.csc.noaa.gov/digitalcoast/data/stics>. Summary data on critical facilities for each coastal state is available on the ftp site.

⁴⁶ <http://www.csc.noaa.gov/digitalcoast/tools/snapshots>

include floodplain on both the Pacific Coast and the San Francisco Bay coast, and the data provided reflects that. However, the Commission’s jurisdiction does not include those areas along the SF Bay coastline.]

2. Based on the characterization of coastal hazard risk, what are the three most significant coastal hazards⁴⁷ within the coastal zone? Also indicate the geographic scope of the hazard, i.e., is it prevalent throughout the coastal zone or are specific areas most at risk?

	Type of Hazard	Geographic Scope (throughout coastal zone or specific areas most threatened)
Hazard 1	Erosion	Statewide; particularly as it relates to the differences in impacts among different shoreline types (beaches, cliffs/bluffs, wetlands etc.)
Hazard 2	Flooding	Statewide; particular as related to beaches, wetlands, area protected by dikes/other infrastructure, and urban areas
Hazard 3	Storms/Waves	Statewide; particularly as it relates to impacts to beaches and adjacent development (residential, docks/piers, infrastructure, etc.)

3. Briefly explain why these are currently the most significant coastal hazards within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

All three of the above hazards are significant because they have been and continue to be important factors that are analyzed in many of the Commission’s decision-making processes (e.g. Coastal Development Permits, Local Coastal Program updates/certifications etc.). Moreover, each of these hazards will be exacerbated by sea level rise and the resulting changes may not be well understood. Many of the stakeholders who responded to the survey mentioned sea level rise in general and or these three hazards in particular as issues they are concerned about, especially as they relate to protection of beaches, coastal habitats, and development.

4. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Sea level rise driven changes in coastal hazards	Additional information related to sea level rise impacts in general is necessary, including in particular better understanding of changes in erosion rates (especially as it relates to differences in shoreline types); the cumulative flooding impacts in areas where rivers/estuaries combine with open ocean shoreline flooding; and modelling methodologies for both
Sea level rise responses	Better understanding of implementation techniques (plus related legal information) for a variety of both common and innovative adaptation responses including but not limited to living shorelines, regional sediment management, and shoreline protective device removal. Additional information about where/under what conditions different techniques are most useful is also necessary, as is better understanding of the methodologies for monitoring sea level rise, local vertical land motion, and the effectiveness of adaptation strategies.

In-Depth Management Characterization:

⁴⁷ See list of coastal hazards at the beginning of this assessment template.

Purpose: To determine the effectiveness of management efforts to address identified problems related to the coastal hazards enhancement objective.

1. For each coastal hazard management category below, indicate if the approach is employed by the state or territory and if there has been a significant change since the last assessment.

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
Statutes, Regulations, and Policies:			
<i>Shorefront setbacks/no build areas</i>	Y	Y	N
<i>Rolling easements</i>	N	N	N
<i>Repair/rebuilding restrictions</i>	Y	Y	Y
<i>Hard shoreline protection structure restrictions</i>	Y	Y	Y
<i>Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure)</i>	Y	Y	Y
<i>Repair/replacement of shore protection structure restrictions</i>	Y	Y	Y
<i>Inlet management</i>	Y	Y	Y
<i>Protection of important natural resources for hazard mitigation benefits (e.g., dunes, wetlands, barrier islands, coral reefs) (other than setbacks/no build areas)</i>	Y	Y	N
<i>Repetitive flood loss policies (e.g., relocation, buyouts)</i>	Y (by FEMA/OES, not the CMP)	N	N
<i>Freeboard requirements</i>	Y	Y	N
<i>Real estate sales disclosure requirements</i>	Y	Y	N
<i>Restrictions on publicly funded infrastructure</i>	N	N	N
<i>Infrastructure protection (e.g., considering hazards in siting and design)</i>	Y	Y	N
<i>Other (please specify)</i>			
Management Planning Programs or Initiatives:			
<i>Hazard mitigation plans</i>	Y (by OES, CGS, not the CMP)	N	N
<i>Sea level rise/Great Lake level change or climate change adaptation plans</i>	Y	Y	Y
<i>Statewide requirement for local post-disaster recovery planning</i>	N	N	N
<i>Sediment management plans</i>	Y	Y	Y
<i>Beach nourishment plans</i>	Y	Y	Y
<i>Special Area Management Plans (that address hazards issues)</i>	Y	Y	Y
<i>Managed retreat plans</i>	Y	Y	Y

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Change Since the Last Assessment (Y or N)
Research, Mapping, and Education Programs or Initiatives:			
<i>General hazards mapping or modeling</i>	Y	Y	Y
<i>Sea level rise mapping or modeling</i>	Y	Y	Y
<i>Hazards monitoring (e.g., erosion rate, shoreline change, high-water marks)</i>	Y	Y	Y
<i>Hazards education and outreach</i>	Y	Y	Y
<i>Other (please specify)</i>			

2. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state’s management efforts in addressing coastal hazards since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state’s management efforts?

No such studies have been done since 2010. Some of the information needs expressed in the table on Emerging Issues/Information Needed and Research Needs/Gap would help evaluate the effectiveness of policies and programs and adaptation strategies.

Identification of Priorities:

1. Considering changes in coastal hazard risk and coastal hazard management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve its ability to more effectively address the most significant hazard risks.

Management Priority 1: Address implications of continued and accelerating sea-level rise

Description: Continue current efforts to incorporate sea-level rise policies into LCPs through amendments and under newly-administered grants. Support efforts to better characterize vertical land movements, particularly near established tide gages. Support efforts to predict effects of the Pacific Decadal Oscillation on sea level off the California coast and possible future changes that might occur at the complex boundaries between coastal and riverine/estuarine systems.

Management Priority 2: Develop management options to ensure protection of Public Trust Lands

Description: A major consequence of continued sea-level rise is the loss of public trust lands seaward of the mean-high tide line. This can occur through “passive erosion” resulting from fixing the back of the beach, and through permanent submergence of formerly intertidal areas. Develop strategies that protect such intertidal areas and ensure continued access and recreation opportunities while at the same time allowing for protection of private and public upland properties as allowable under the Coastal Act and/or certified LCPs.

Management Priority 3: Strengthen policies related to hazard avoidance

Description: Support efforts to incorporate both common and new, innovative approaches for avoiding coastal hazards into LCPs. For example, better incorporate coastal setback requirements developed by the Commission under the Coastal Act into existing LCPs and develop Transfer Development Rights program(s) to allow private property owners reasonable development opportunities while ceding hazardous properties to public use.

Management Priority 4: Improve coastal hazard information distribution

Description: Improve local government and general public access to coastal hazard mapping through development of a web-based portal consolidating the many existing hazard mapping efforts. Coordinate efforts with the California Energy Commission and academia to develop probabilistic approaches to coastal hazard characterization. Develop mechanisms for incorporating such probabilistic approaches to coastal hazard assessment and hazard avoidance strategies.

2. Identify and briefly explain priority needs and information gaps the CMP has for addressing the management priorities identified above. The needs and gaps identified here should not be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.
The Priority Needs and Gaps identified below will be useful for addressing any of the management priorities identified.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Research	Y	Research is needed to help better understand vertical land motion, dynamic changes to coastal/riverine systems from rising sea level, the effectiveness of adaptation strategies for various coastal types, and to support most policy changes. Management efforts directed toward coastal hazards will require research into many aspects of the coast to minimize risks from hazards, better understand where certain hazards may be of greater or lesser concern, determining whether there are underlying causes for the hazardous condition that can be managed. For example, beach nourishment may not be effective in locations where beach erosion is due primarily to land subsidence. If research determines that ground water withdrawals are a major cause for land subsidence and sea level rise in certain areas, policies directed at changes in water withdrawals may be important in a beach management effort.
Mapping/GIS/modeling	Y	Mapping, GIS and modeling are planning tools and they have been used in LCPs for many years. In addition, mapping, GIS and modeling are major components of most local government's sea level rise vulnerability assessment and LCP updates. As the 76 coastal local governments undertake these efforts, one anticipated need will be an efficient way to collect, apply, compare and improve access to the spatial data. In the coming years the staff will need to explore options for best providing this data and information, through existing sites such as CalAdapt, or through new or modified sites.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Data and information management	Y	A large number of hazard maps, studies, tools and data sets have been developed over the years. They existing in various locations, in various formats and at various scales; they have been developed for a variety of use. Some have outlived their usefulness, but are still being used, some have not received the exposure that is appropriate. Data and information management is important now to help planners and local communities best use existing data and information. Many new maps and tools are being developed in response to various sea level rise issues and planners and local government staff will need help in determining which if these will be useful, and under what conditions.
Training/Capacity building	Y	Staff and local planners need to be trained on the available hazard and sea level rise products so that they can make the best use of these new and emerging tools.
Decision-support tools	Y	Decision-support tools that bridge research and policy such as applying the sea level rise guidance in LCPs, guidance for addressing sea level rise for specific topics such as infrastructure asset classes, or model policies or ordinances, .
Communication and outreach	Y	Outreach is important to sea level rise vulnerability assessments and LCP updates and is fundamental to the Coastal Act.

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?

Yes X
 No

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

Hazards and hazard responses are an important CCMP program concern due to sea level rise and due to the potential impacts to public access, coastal resources, public trust lands and water quality from hazard responses such as shoreline armoring and bluff retaining structures. It was also one of the highest priorities identified in the initial stakeholder survey. The two strategies proposed both address this assessment. One strategy will focus on public access and public trust lands where the Commission retains primary regulatory authority under Coastal Act section 30519(b). Because development or amendments of a Local Coastal Program are initiated by the local government not the Coastal Commission, the other strategy will focus on achieving update of LCP land use plan policies and implementing ordinances through technical assistance and guidance for local planning.

PUBLIC ACCESS

In-Depth Resource Characterization:

Purpose: To determine key problems and opportunities to improve the CMP's ability to increase and enhance public access opportunities to coastal areas.

1. Use the table below to provide additional data on public access availability within the coastal zone not reported in the Phase I assessment.

Public Access Status and Trends			
Type of Access	Current number	Changes or Trends Since Last Assessment (↑, ↓, -, unkwn)	Cite data source
Access sites that are ADA compliant ⁴⁸	No. of Sites 767	<p>In the 2010 Assessment, there were at 435 sites that provided disabled access. There were a total of 882 access sites, therefore in 2010, 49% of the sites provided disabled access.</p> <p>As of 2015, there are 767 sites that provide disabled access. There are now a total of 1450 access sites, therefore in 2015, 53% of the sites provide disabled access. In conclusion, since the last Assessment, both the number and percentage of disabled sites have increased (by 332 sites and 4% overall).</p>	<p>CCC's Public Access Inventory baseline which compiled the data contained in the: Commission's Coastal Access Guide (2014) and four regional guides: Experience the California Coast – Beaches and Parks in Northern California (2005), Experience the California Coast – Beaches and Parks from San Francisco to Monterey (2012), Experience the California Coast – Beaches and Parks from Monterey to Ventura (2007), and Experience the California Coast – Beaches and Parks in Southern California (2009).</p>
	Percent of Sites 53%		

2. What are the three most significant existing or emerging threats or stressors to creating or maintaining public access within the coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout the coastal zone or are specific areas most threatened? Stressors can be private development (including conversion of public facilities to private); non-water-dependent commercial or industrial uses of the waterfront; increased demand; erosion; sea level rise or Great Lakes level change; natural disasters; national security; encroachment on public land; or other (please specify). When selecting significant stressors, also consider how climate change may exacerbate each stressor.

⁴⁸ For more information on ADA see www.ada.gov.

	Stressor/Threat	Geographic Scope (throughout coastal zone or specific areas most threatened)
Stressor 1	Impacts to public access and trust lands due to sea level rise and due to increased armoring in response.	Throughout coastal zone
Stressor 2	Encroachment upon public land	Throughout coastal zone pronounced in urban areas
Stressor 3	Obstacles to full Completion of the California Coastal Trail	Throughout coastal zone

3. Briefly explain why these are currently the most significant stressors or threats to public access within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Stressor 1: While permits that raise issues related to shoreline armoring comprise only about 3.5% of the permits and appeals reviewed by the Commission since 2010, such developments cumulatively and permanently impact shoreline resources. As noted in a study by Griggs⁴⁹:

In California, an astonishing 110 mi, or 10 percent, of the state's entire 1,100 mi of coast, has now been protected or armored. In southern California's four most urbanized counties (Ventura, Los Angeles, Orange, and San Diego), 33 percent of the entire 224 mi of shoreline has now been armored (Griggs, 2005). Most of California's shoreline development took place during the cool or less storm Pacific Decadal Oscillation (PDO) cycle that extended from 1945 to 1977. The warmer 1978–2000 PDO cycle was characterized by a number of strong ENSO winters, bringing shoreline damaging events that led to large increases in requests for new armoring permits.

As noted elsewhere in this report, the state through the California King Tides Initiative is working to expand public awareness and through such efforts it is likely property owners will become more aware of potential sea level rise. As sea level rises, property owners (both private and public) will seek authorization to protect their land from rising sea level impacts. Generally the first reaction is to install some kind of shoreline armoring. When armoring is installed, it impacts public access in a number of ways. The armoring generally displaces sandy beach area, and therefore this area formerly used for public access and recreation is now usurped by the protective structure. The armoring not only slows the erosion rate of cliffs or dunes which back the beach, and reduces the areas contribution to sand supply (which feeds the beaches that the public can use to recreate on); fixing the back of the beach also can also cause other negative impacts to sand movement and supply.

Another significant threat from sea level rise is the negative impact to the public trust lands; as beaches are impacted or directly covered by shoreline armoring structures and/or rising sea levels. The loss of public trust lands adversely affects the public's right of access to the beach and ocean and ability to

⁴⁹ Griggs, G.B., 2010, The effects of armoring shorelines—The California experience, in Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring— Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 77-84.
http://pubs.usgs.gov/sir/2010/5254/pdf/sir20105254_chap8.pdf

recreate in these areas. The Commission's Strategic Plan Objective 1.2.1 calls for evaluating methodologies for mitigating these seawall impacts upon public access.

Stressor 2: The Commission continues to see a trend of encroachment of private uses upon public lands. These encroachments include unauthorized physical impediments that block or impede public access and recreational activities, as well as proposals to constrain parking, increase parking fees, establish beach curfews, and curtail hours of operation which all act to limit or inhibit use of public lands for public recreation. Strategic Plan Action 1.1.1 calls for documenting and assessing these impacts upon public access.

Stressor 3: The Commission is mandated to complete the Coastal Trail the length of California's shoreline. Currently the Trail is about 60% complete. While LCP planning needs to be completed in order to extend segments of the Trail, sea level rise could also impact existing segments of the Trail, (such as low lying beach bicycle trails including the South Bay Bicycle Trail, along the south bay of Los Angeles County – a 20 mile long segment and the Bayshore Bikeway around San Diego Bay – a 26 mile segment), further impacting completion of the Trail. Therefore, adaptive management strategies need to be identified for these existing segments at risk, per Strategic Plan Action 1.4.4.

Stakeholder Survey: The Commission recently conducted an online survey of stakeholders to gather input about program priorities and needs. The survey was posted to our main webpage and email notice was sent to over 500 interested stakeholders requesting participation. We received 110 responses to the survey. Of the 110 respondents, the majority identified themselves as representatives of local government (44%), followed by public interest/non-profit/NGO groups (20%). Public Access was identified as the third top priority issue area at 21% (after LCPs – 28% and Hazards – 25%). Therefore, the public is clearly concerned about protection of public access to and along the coast.

4. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

All three of the stressors identified above lack sufficient information to evaluate the level of potential threat.

For Stressor 1: The Commission in combination with local governments have approved hundreds of permits for shoreline protective structures over the decades. However, Commission staff has not taken a comprehensive look at these projects to determine their impact over time nor has staff been able to identify alternative strategies to address shoreline erosion.

Conducting this analysis would help to implement the agency's Strategic Plan Objective 1.2.1 which is to "provide updated guidance to applicants and local governments on assessing and mitigating impacts to public access and beach ecosystem services from shoreline armoring projects". This analysis would also take into account the potential impacts to the public trust lands and identify ways, through possible interagency agreements, and LCP and regulatory guidance, to protect these public lands. Given the significant amount of work this task would entail, and given that the majority of the shoreline armoring is located in Southern California, a pilot project to cover one or two southern California counties would be appropriate in this case.

Fully addressing this issue may take several projects. Some of these activities may be undertaken in the proposed Strategy 1. This could include the following types of work tasks:

- Quantify all the seawalls approved by the Commission.
 - This would involve at least the following steps:
 - identifying any past staff research efforts that may have previously collected some of this information
 - searching the Commission databases for a complete list of permits
 - reviewing and analyzing the information contained in each permit file
- Quantify the footprint of the approved seawalls and determine how many acres of sandy beach have been covered up by the seawalls, and back beach/sand supply lost.
- Identify the permit conditions imposed (e.g. public access mitigation, limited term for the seawall placement, in-lieu fee mitigation, conditions for allowing maintenance and repair and/or reconstruction, etc.). Conduct research to determine status of condition compliance and develop strategies to address those not in compliance.
- Evaluate the success of the permit conditions, which are designed to reduce the impacts of the seawall upon public access.
- Overlay the seawall locations onto aerial maps and include:
 - All existing public access points
 - All future public access points (e.g. un-opened public easements, LCP access standards for # of access points per mile, per beach, etc.)
- Analyze the information above and develop a strategy to determine what changes are needed to address impacts from shoreline armoring upon public access. Identify specific adaptive measures that can be utilized, such as:
 - relocating development back from the edge of beaches, cliffs, etc. so as to reduce the need for shoreline armoring
 - Sand replenishment programs
 - Alternative public accessways such as bluff top trails to mitigate for loss of sandy beach recreational areas
 - Removal of pre-existing seawalls and replacement with alternatives such as a comprehensive regional approach (e.g. one long vertical wall) which includes public access amenities (e.g. incorporates public access stairways, bluff top public trails and parks, etc.), offshore reefs, breakwaters, etc.
- Address the impact of sea level rise on the State's coastal infrastructure. This would include both our coastal State highway system of roads and bridges as well as local roads and

infrastructure, many of which are built close to the shoreline edge and are/will be impacted by sea level rise. Development of strategies to relocate this infrastructure (e.g. replace low lying bridges with high elevation bridges, move the coastal Highway inland, relocate utilities inland, etc.) need to be identified and implemented.

- Address the impacts of sea level rise on public trust lands and work with the State Lands Commission to identify strategies to reduce this impact and/or identify appropriate mitigation strategies.
- Quantify the number of permits associated with public infrastructure permits and impacts from the approved projects. Determine alternatives to protecting those structures in place, given the length of time these structures are intended to be used (e.g. 75 to at least 100 years).

For Stressor 2: Documenting and assessing existing encroachments and impediments to public access statewide would be a time consuming and challenging task. Completion of this task would require field investigations along the 1271 mile long coastline as well research with local and state governments regarding plans and policies adopted that limit or impact public access, such as beach curfews and no parking signs implemented without benefit of approval by the Commission.

For Stressor 3: Planning for completion of the California Coastal Trail is a complex task and is best completed through LCP updates. Encouraging local governments to take on this planning task in collaboration with the Coastal Conservancy, California State Parks and California Department of Transportation, is a high priority. Within that framework and given the impacts that sea level rise could have on existing trail segments, planning for relocation of these existing segments as well as building in alternative locations inland or on higher ground for future segments is imperative.

Emerging Issue	Information Needed
See above- sea level rise impact upon public access and public trust lands	See above – need to quantify past seawall permits and impacts and assess impacts to public trust lands. Determine if past mitigation was successful and work with State Lands Commission and others to identify adaptive management strategies for the future.

In-Depth Management Characterization:

Purpose: To determine the effectiveness of management efforts to address identified problems related to the public access enhancement objective.

1. For each additional public access management category below that was not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant changes (positive or negative) have occurred at the state-

or territory-level since the last assessment.

Management Category	Employed by State/Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Comprehensive access management planning	Yes	Yes	Task on-going
GIS mapping/database of access sites	Yes	Yes	Volume 4 of “Experience the California Coast” guidebook series (San Francisco to Monterey) published 2012; statewide “California Coastal Access Guide” published 2014; web application pending 2015
Public access technical assistance, education, and outreach (including access point and interpretive signage, etc.)	Yes	Yes	Numerous public access points identified with new public access signage; maps for Carbon Beach; Los Angeles County map pending 2015; development of a Mobile Web Application to identify public accessways (In testing)
Other (please specify)			

2. For management categories with significant changes since the last assessment, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.

GIS Mapping/Database

a. Describe significant changes since the last assessment: The Commission has published two new Access Guide Books, detailing all the public access points for both the Central Coast (San Francisco to Monterey, 2012) and for the entire state (2014). These guide books contain detailed information for 1150 access points and include 170 color maps, all developed through GIS mapping techniques. The Commission also completed final production of a publicly available mobile web application to access the digital inventory of coastal access sites.

b. Specify if they were 309 or other CZM-driven changes. These initiatives were driven by the Commission and other partners, so it is a CZM driven change.

c. Characterize the outcomes or likely future outcomes of the changes. These books and mobile web application enhance the ability of the public to reach the coast. They also provide a technical resource for local governments in the update of their LCP Public Access Components and Land Use Plans because

the LCP planning can better reflect existing public access and better identify where additional access is needed.

Public access technical assistance, education, and outreach (including access point and interpretive signage, etc.)

a. Describe significant changes since the last assessment. The Commission has partnered with our State transportation agency Caltrans, in posting additional highway signs to inform travelers about the location of new or formally un-posted public access sites. The Commission staff has also developed a new fold out map depicting all the access points in Los Angeles County. Given that Los Angeles is the most populous coastal county, we created this map as another tool to help visitors find and enjoy the beach.

b. Specify if they were 309 or other CZM-driven changes. This initiative was driven by the Commission and other partners, so it is a CZM driven change.

c. Characterize the outcomes or likely future outcomes of the changes. This has increased the ability of the public to reach the coast. It also provided a technical resource for local governments in the update of their LCP Public Access Components and Land Use Plan because the LCP planning can better reflect existing public access and better identify where additional access is needed.

Comprehensive access management planning

a. Describe significant changes since the last assessment. The State has launched an initiative called the California King Tides Project. The Project is organized by a partnership among several state and federal agencies and non-profit organizations; the Commission is one of the partners. The California King Tides Project has two goals:

- Educate the public about sea level rise. Hundreds of thousands of California residents – many of whom are physically, socially, or economically disadvantaged – live in areas which will be vulnerable or uninhabitable within the next 50 years. Yet most people don't understand these risks, and support for adaptation planning is weak. The Project will help people to understand what's at risk and how they can be part of the adaptation solution.
- Create a catalogue of hyperlocal flood risk data for researchers and decision makers. In California, billions of dollars' worth of private property, public infrastructure, and businesses are at risk, but flood prediction models often lack good validation data, and parcel-scale information needed for municipal planning is missing. The Project will help to fill those gaps through innovative citizen science.

b. Specify if they were 309 or other CZM-driven changes. This initiative was driven by the Commission and other partners, so it is a CZM driven change.

c. Characterize the outcomes or likely future outcomes of the changes. As described above, the purpose of the Project is to both educate the public about what sea level rise is and then provide critical data for decision makers to help address impacts from sea level rise and reduce impacts to the general public. One important topic that will be included will be the issue of pre-existing and proposed seawalls and their impact upon both public and private lands.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's management efforts in providing public access since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's management efforts?

The assessment of new public accessways was documented in the Phase I Assessment portion of this document.

In addition, the Commission initiated a grant program in FY 2013 to provide funding to local governments to update and or certify LCPs. For awards given in FY 2014, two Southern California jurisdictions (County of San Diego and City of Carlsbad) received grants to work on a number of topics, including sea level rise and public access. When these studies are complete, they will provide additional information as to how to ensure public access opportunities as sea level rises.

Also, Commission regulatory actions since 2010 have resulted in the creation of 216 new access sites and enhancement of 162 sites. Sea level rise could potentially impact many of these sites (most of which are sandy beach areas that would be inundated and thus reduce public recreational sandy beach area) and if so, the benefits of the new/enhanced sites might be jeopardized. Adaptive management strategies would need to be developed to mitigate for this potential loss.

Identification of Priorities:

1. Considering changes in public access and public access management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve the effectiveness of its management effort to better respond to the most significant public access stressors.

Management Priority 1: Evaluating methodologies for addressing impacts of sea level rise on public lands and public access.

Description: Provide updated guidance to applicants and local governments on assessing and mitigating impacts to public access, public trust lands, and beach ecosystem services from shoreline armoring projects. Within a pilot regional or sub-regional area, conduct a comprehensive look at regulatory actions to determine impact on public access over time, identify alternative strategies to address shoreline erosion and provide guidance to local government for LCP updates. In consultation with the State Lands Commission, evaluating adaptation strategies to protect public trust lands. This will carry out Strategic Plan Action 3.1.7.

Management Policy #2 Enhance Public Access Through Updated Beach Access Assessment and Constraints Analysis.

Description: LCPs generally do not include a complete inventory of public access facilities, including public access easements and accessways, parking constraints and fees, beach curfews, hours of operation, physical impediments, encroachments and other development that may be blocking or limiting public access to and along the beach. Compiling such an inventory would greatly enhance the local governments (and the Commission’s) ability to track changes over time and ensure that public access opportunities are not lost through such actions as approval of CDPs that incrementally allow a reduction of public parking opportunities near to the beach. It would also implement Strategic Plan Action 1.1.1.

Management Priority 3: Coordinate with California State Parks regarding shoreline access issues, including parking management at State Parks.

Description: The California State Parks Department operates about 25% of California’s shoreline for general public recreational uses. A major issue that has emerged over the last two decades is the need for increased revenues to support State Parks in order to provide these public services and potential impacts to the visiting public from proposals to increase park user fees, such as parking fees. A tension exists between proposals to raise user fees to fund these public services and the State goal of ensuring public access to all visitors, particularly those at lower income levels. While coordination has occurred between the Commission and the State Parks Department on how to address this issue in specific situations, more formal coordination procedures would be helpful to address this policy issue more systematically statewide, as well as to implement Strategic Plan Action 1.1.3 which requires coordination with State Parks on statewide shoreline access issues, including park management.

Management Priority 4: Protect and provide lower cost visitor serving accommodations for coastal visitors.

Description: Some LCPs provide for protection of lower cost visitor serving overnight accommodations but lack adequate enforceable provisions. Many LCPs do not have any policies to protect these kinds of accommodation and development trends show increasing pressure to replace lower cost overnight accommodation facilities with higher cost accommodations. Therefore, Strategic Plan Action 1.2.2 calls for enhanced coordination between government agencies to implement this goal.

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here do not need to be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Research	Yes	Identify, review and analyze all Commission permits authoring shoreline armoring. Also research related to alternative mechanisms for protecting overnight accommodations as follow up to Commission workshops on this topic.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Mapping/GIS	Yes	Map all approved shoreline armoring and all existing/proposed public access points
Data and information management	Yes	Analyze collected data and determine future policies to ensure that shoreline armoring does not impact public access and public trust lands
Training/Capacity building	Yes	Work with local government staff to update LCPs incorporating shoreline armoring policies
Decision-support tools	Yes	Develop guidance for updating LCPs to address key management priorities including updating Access Components to include adaptation strategies, state park shoreline management issues and protection of affordable overnight accommodations.
Communication and outreach	Yes	Hold workshops to share decisions with stakeholders, including local governments
Other (Specify)		

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?

Yes X _____
 No _____

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

The Coastal Act places a high priority on maximizing public access to the coast; therefore Commission has long prioritized implementation of this mandate. A strategy to address the impacts of sea level rise on public access and public shoreline lands is an important need as when the sea rises critical beachfront area, whether sandy beach or rocky shore, will be inundated and thus no longer available for public recreational use. When public recreational use areas are lost, then alternative uplands sites must be identified and protected to make up for the immediate shoreline loss. In California, the demand for public recreation areas along the coast exceeds the supply, thus every shoreline area is critical to meet this never ending demand (especially given the population growth predictions). In addition, Coastal Hazards and Public Access were also identified by the initial stakeholder survey as being two of the top three priorities. Thus, a Strategy that addresses aspects of both issues may be a more important initial effort than undertaking the other management priorities such as beach access assessments and constraints analysis, State Parks parking management issues or lower-cost accommodation issues.

CUMULATIVE AND SECONDARY IMPACTS

In-Depth Resource Characterization:

Purpose: To determine key problems and opportunities to improve the CMP's ability to address cumulative and secondary impacts of coastal growth and development.

1. What are the three most significant existing or emerging cumulative and secondary stressors or threats within the coastal zone? Indicate the geographic scope of the stressor, i.e., is it prevalent throughout the coastal zone or are there specific areas that are most threatened? Stressors can be coastal development and impervious surfaces; polluted runoff; agriculture activities; forestry activities; shoreline modification; or other (please specify). Coastal resources and uses can be habitat (wetland or shoreline, etc.); water quality; public access; or other (please specify). When selecting significant stressors, also consider how climate change may exacerbate each stressor.

	Stressor/Threat	Coastal Resource(s)/Use(s) Most Threatened	Geographic Scope (throughout coastal zone or specific areas most threatened)
Stressor 1	Climate change/Shoreline Modification	Public beaches and access	Throughout the coastal zone
Stressor 2	Affordability of access and recreation	Public access and recreation	Throughout coastal zone but especially pronounced in urban areas
Stressor 3	Conflicts from development	Public Access, priority uses and natural resources	Throughout the coastal zone

2. Briefly explain why these are currently the most significant cumulative and secondary stressors or threats from coastal growth and development within the coastal zone. Cite stakeholder input and/or existing reports or studies to support this assessment.

Climate Change/Shoreline Modification.

Shoreline Modification: While permits that raise issues related to shoreline armoring comprise only about 3.5% of the permits and appeals reviewed by the Commission since 2010, such developments cumulatively and permanently impact shoreline resources. As noted in a study by Griggs⁵⁰:

In California, an astonishing 110 mi, or 10 percent, of the state's entire 1,100 mi of coast, has now been protected or armored. In southern California's four most urbanized counties (Ventura, Los Angeles, Orange, and San Diego), 33 percent of the entire 224 mi of shoreline has now been armored (Griggs, 2005). Most of California's shoreline development took place during the cool or less storm Pacific Decadal Oscillation (PDO) cycle that extended from 1945 to 1977. The warmer 1978–2000 PDO cycle was characterized by a number of strong ENSO winters, bringing shoreline damaging events that led to large increases in requests for new armoring permits

⁵⁰Griggs, G.B., 2010, The effects of armoring shorelines—The California experience, in Shipman, H., Dethier, M.N., Gelfenbaum, G., Fresh, K.L., and Dinicola, R.S., eds., 2010, Puget Sound Shorelines and the Impacts of Armoring— Proceedings of a State of the Science Workshop, May 2009: U.S. Geological Survey Scientific Investigations Report 2010-5254, p. 77-84.
http://pubs.usgs.gov/sir/2010/5254/pdf/sir20105254_chap8.pdf Accessed 2/9/15

Projected sea level rise is expected to further increase proposals for more armoring. This will require new policies and ordinances in LCPs and new permit conditions to avoid or mitigate impacts.

A particular challenge will be addressing measures such as potential shoreline retreat and living shoreline and green infrastructure solutions. Given the diversity of coastline and resources, the approaches in developed urban areas are likely to differ from those in rural areas. Guidance that addresses different approaches in both developed and undeveloped areas of the coastline is needed.

This would help to implement several of the agency's Strategic Plan Objectives, including the following: 3.2: Assess Coastal Resources Vulnerabilities to Guide Development of Priority Coastal Adaptation Planning Strategies; Action 3.2.1 to conduct broad vulnerability assessments to identify priority areas for adaptation planning; Action 3.2.2 to assess and address infrastructure vulnerabilities; and Action 4.2.2 to Provide and update online guidance for local governments updating LCPs to improve policy information related to (a) Climate change impacts, adaptation and mitigation and (b) Shoreline protective options and mitigation strategies.

The importance of this issue was underscored by respondents of the Phase 1 stakeholder survey which ranked enhancements related to hazards a top priority and noted that addressing the impacts of sea level rise was the most pressing issue facing the coastal management program. And significant interest was expressed in more guidance related to adaptation and managed retreat.

Other Climate Change Impacts. Commission staff has identified the need for additional guidance on addressing the cumulative impacts of sea level rise on public access, shoreline habitats including wetlands, and agricultural lands to assist local governments developing and updating LCPs. In addition, climate change issues include the cumulative impacts to environmentally sensitive habitats and other sensitive vegetation as a result of changes in fire risk and fuel modification responses. To accomplish such guidance, there is a need for more data gathering, analysis and policy guidance development needed

In additions, the cumulative effects of development on water resource /water supply including groundwater are of growing concern.

Protection of Affordability for overnight accommodations, access and recreation. As noted in the Phase 1 assessment, while coastal counties are expected to grow an additional 7% from 2010 to 2020, the highest overall percentage of projected growth will be in inland counties, thus increasing pressure on the ability to maintain affordable access to the coast and its resources by providing for public access, transportation and overnight accommodations in the coastal zone for all Californians. The protection of lower cost facilities is a major issue. Section 30213 of the Coastal Act requires:

Section 30213 Lower cost visitor and recreational facilities; encouragement and provision; overnight room rentals

Lower cost visitor and recreational facilities shall be protected, encouraged, and, where feasible, provided. Developments providing public recreational opportunities are preferred.

The commission shall not: (1) require that overnight room rentals be fixed at an amount certain for any privately owned and operated hotel, motel, or other similar visitor-serving facility located on either public or private lands; or (2) establish or approve any method for the identification of low or moderate income persons for the purpose of determining eligibility for overnight room rentals in any such facilities.

As the Commission has reviewed development applications in the last few years, the Commission has identified the retention of existing overnight lower cost accommodations as a critical and growing issue in the coastal zone. The Commission has applied in lieu fee requirements that have resulted in significant mitigation through provision of approximately 260 hostel beds and 225 campsites, and the renovation of several cottages,⁵¹ and has identified potential strategies for allocating remaining unspent in lieu fees to provide more affordable facilities.⁵²

The Commission held the first of two workshops on this issue in December 2014. The second workshop was held in March 2015. Information presented to the Commission at the December workshop indicates the next few years will be critical in retaining existing facilities.⁵³ This first workshop highlighted some of the problems and possible new mechanisms to consider as a means to aid in protection of affordable accommodations.⁵⁴ For example, the presentation by Dr. Patrick Tierney noted that for a number of reasons, existing affordable lodging facilities are likely to be lost if left only to the marketplace. He presented some initial ideas for possible future research and development of alternative mitigation approaches in addition to in lieu fees, including such as:

- developing conservation easements similar to those for protection of agriculture and resource lands that use purchase of development rights, contain limits and allow owners to retain title;
- Adapt programs in use for energy incentives to borrow funds for upgrading property with repayment over time through property tax bills;
- Low interest loans in exchange for control of rates;
- Mitigation banking that allows owner to get credit for retention and sell or transfer credits.
- Commission assistance in helping small owners promote the affordable lodging through Commission websites.

Additional strategies were discussed at the March workshop, including opportunities for public/private partnerships to pursue development of new lower cost accommodations, use of a revolving loan fund to help support existing lower cost accommodations, and the use of voluntary, long-term restrictions on room rates.

⁵¹ <http://documents.coastal.ca.gov/reports/2010/5/F14c-5-2010.pdf>

⁵² California Coastal Commission, *Expanded Implementation of an In Lieu Fee Mitigation Program: Recommendations for Priorities and Implementation Strategy*, CZMA 309 Enhancement Program, July 30, 2013.

⁵³ Dr. Patrick Tierney, Presentation to the California Coastal Commission, Public Workshop: Lower Cost Visitor Serving Accommodations, December 10, 2014.

⁵⁴ <http://documents.coastal.ca.gov/reports/2014/12/W3-12-2014.pdf>

This is also an issue that the State Department of Parks and Recreation is confronting statewide in the state park system. A recent report on the state Park System identified the need to provide a range of affordable opportunities in order to expand park visitation⁵⁵ :

Overnight stays can help visitors of all ages and backgrounds connect with their parks. Today, overnight visitors can stay at thousands of campsites using tents or recreational vehicles, but for those who don't own such equipment, lodging options – ranging from on-site cabins and yurts to off-site lodges and hotels – are fewer and often more expensive. Increasing the number, variety, and affordability of overnight accommodations, particularly for young people and others who have not yet built personal connections to parks and the outdoors, is a key Parks Forward recommendation.

For the State Park units in the coastal zone, the Commission has an opportunity to work with this State Parks initiative to protect and to expand affordable overnight accommodations in the coastal zone. However, some of this effort will require new research and policy development, both to frame new mechanisms and to identify how best to implement through Local Coastal Programs. This would help to implement agency Strategic Plan actions, including 1.2.2 to identify, plan for and provide new public access and recreational opportunities and lower cost visitor serving accommodations through effective allocation of existing and potential future in lieu fees.

Conflicts from Development. Measures to implement sustainable development may raise potential cumulative impacts to affordable access if other Coastal Act policies are not addressed. Since 2010 efforts to continue to encourage sustainable development to reduce greenhouse gas emissions have continued. Progress has been made in implementing the Sustainable Communities and Climate Protection Act of 2008⁵⁶ that required regional agencies to develop Sustainable Communities Strategies (SCS) that integrated transportation, land-use and housing policies to plan for reductions of greenhouse gas emissions. This has included increased efforts to encourage infill development and sustainable land use plans. Infill development can focus on different types of development including transit-oriented developments (TODs), mixed use developments, main street commercial corridor development or redevelopment or reuse of industrial lands.

Encouraging sustainable development can include changes to ordinances that encourage infill development, reduce parking requirements, increase or eliminate density and height limits, encourage alternative energy and other measures designed to foster multi-modal transit and pedestrian oriented neighborhoods. Such measures can be in line with many Coastal Act policies, including those such as concentrating development and encouraging infill development (Coastal Act Section 30250) and maintaining access through such measures as alternative transportation, providing commercial facilities within or adjoining residential development (e.g. mixed use), providing adequate parking facilities or providing substitute means of serving the development with public transportation (Coastal Act Section 30252) and ensuring that new development will minimize energy consumption and vehicle miles traveled (Coastal Act Section 30253).

⁵⁵ Parks, Forward, A NEW VISION FOR CALIFORNIA STATE PARKS RECOMMENDATIONS OF THE PARKS FORWARD INITIATIVE | FEBRUARY 2015

[http://parksforward.com//site/uploads/PFI%20Recommendations_Final_012915%20\(00278207xA1C15\)%20\(1\).pdf](http://parksforward.com//site/uploads/PFI%20Recommendations_Final_012915%20(00278207xA1C15)%20(1).pdf)

⁵⁶ [Sustainable Communities and Climate Protection Act of 2008 \(Sustainable Communities Act, SB 375, Chapter 728, Statutes of 2008\)](#)

But such measures that encourage sustainable residential communities can also raise potential conflicts with other Coastal Act policies that require protection of priority uses so that the coastal zone is not just accessible to those who reside in it. For example Coastal Act Section 30254 provides, in part, *Where existing or planned public works facilities can accommodate only a limited amount of new development, services to coastal dependent land use, essential public services and basic industries vital to the economic health of the region, state, or nation, public recreation, commercial recreation, and visitor-serving land uses shall not be precluded by other development.* Or, several recreation policies (Coastal Act 30220 through 30223) specify certain priority land uses in the coastal zone. Section 30222 specifically notes that the use of private lands suitable for visitor-serving commercial recreational facilities designed to enhance public opportunities for coastal recreation shall have priority over private residential, general industrial, or general commercial development, but not over agriculture or coastal-dependent industry.

A climate change adaptation strategy to develop higher density residential, walkable communities in the coastal zone must consider all Coastal Act policies, and any potential conflicts with protecting such priority uses and cumulative impacts to those priority uses must be addressed. Guidance for local governments working to update LCPs is needed to help avoid or minimize such conflicts. This would help to implement agency Strategic Plan objectives through actions including 3.3.1 to evaluate policy options to promote smart growth strategies such as mixed use and higher density development where appropriate, transit oriented development, Blueprint Planning, transportation demand management and low impact development.

The Commission in its planning and regulatory program is also noting continued cumulative impacts from other barriers to public access such as those related to user and parking fees, restrictions on time and use of public beaches and unauthorized development which blocks public access.

3. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Affordability of access and recreation	Need for more quantitative assessment of status and trends to guide LCP updates
Assess CSI related to Climate Change in addition to sea level rise; assess and review LCPs to incorporate adaptation strategies.	Discussed in Hazards and Wetlands and Access sections
Expand quantitative evaluation of policy implementation in all enhancement areas to update LCPs and regulatory measures	Need for more quantitative assessment of policy implementation. Also discussed under Special Area Management Planning (LCPs) section
Protection of water and transportation capacity for priority uses and impacts of growth that is not supported by capacity.	Need for more quantitative assessment of status and trends to guide LCP updates.
Groundwater resources	More analysis of potential changes in coastal zone resulting from new groundwater protection legislation.

In-Depth Management Characterization:

Purpose: To determine the effectiveness of management efforts to address identified problems related to the cumulative and secondary impacts enhancement objective.

1. For each additional cumulative and secondary impact management category below that is not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred since the last assessment.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
Methodologies for determining CSI impacts	Y	N	Y
CSI research, assessment, monitoring	Y	Y	Y
CSI GIS mapping/database	Y	N	Y
CSI technical assistance, education and outreach	Y	Y	Y
Other (please specify)			

2. For management categories with significant changes since the last assessment, briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.
 - a. Describe significant changes since the last assessment;
 - b. Specify if they were 309 or other CZM-driven changes; and
 - c. Characterize the outcomes or likely future outcomes of the changes.

Methodologies for determining CSI impacts. Since 2010 the Governor’s Office of Planning and Research has published guidance that may include ways to assess cumulative impacts under the California Environmental Quality Act (CEQA) or other related state laws.⁵⁷ While these were not funded or driven by the coastal management program, they may be of use by local coastal governments in updating their LCPS.

CSI research, assessment, monitoring. Since 2010, many local coastal governments have initiated planning to complete or to update LCPS.in FY 13 and FY 14, LCP Planning Grants were awarded by the Commission to support these efforts. The outcomes are expected to be updated policies and ordinances to better avoid or mitigate impacts.

CSI GIS mapping/database. Since 2010 the Commission developed and implemented a Coastal Data Management System (CDMS) (5/1/2013). This was both a 309 change (see task 309-1 FY11 309 award)

⁵⁷ http://www.opr.ca.gov/m_ceqa.php and http://opr.ca.gov/s_technicaladvisories.php Accessed on 2/20/15.

and with CZM-driven changes. This system helps to enhance the assessment of cumulative impacts by facilitating the tracking of data that could be used in policy evaluation and LCP updates.

CSI technical assistance, education and outreach. Since 2010 the Commission made available several Guidance documents, such as the LUP and IP Update Guides that provide technical assistance and education in a number of LCP planning issues to local governments. These were 309 projects and will result in new and revised LCP policies and ordinances to better address potential cumulative impacts to coastal resources.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's or territory's management efforts in addressing cumulative and secondary impacts of development since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state and territory's management efforts?

Since 2010 there have been several reports that include assessments of the Commission's program in addressing cumulative impacts to coastal resources. Among these are:

- The Annual Reports for the OTD Program that documents the number and acreage of easements accepted to afford permanent protection of lands required for mitigation of coastal development.
- The Annual Reports for the Public Access Program that documents the number of public access easements required and accepted to afford permanent protection of public access required for mitigation of coastal development
- Other reports on the activity of the coastal program at:
 - <http://www.coastal.ca.gov/issue-briefings.html>
- Publications including C. Lester, CZM in California: Successes and Challenges Ahead, Coastal Management, 41:219–244, 2013.
- Many of the Guidance reports identified in the Phase 1 Assessment section on Section 309 Program Achievements 2010-2014 included information on the outcomes of Commission regulatory and planning activities.

Identification of Priorities:

1. Considering changes in cumulative and secondary impact threats and management since the last assessment and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve the effectiveness of its management effort to better assess, consider, and control the most significant threats from cumulative and secondary impacts of coastal growth and development. (*Approximately 1-3 sentences per management priority.*)

Management Priority 1: New ways to protect affordable overnight accommodations

Description: Identify new implementation tools.

Management Priority 2: Guidance for protecting priority land uses

Description: LCP guidance for updating land use designations and ordinances to protect public access and priority land uses.

Management Priority 3: Guidance for addressing water availability for new and existing development and agriculture

Description: LCP guidance for updating land use designations and ordinances to address protection of limited resources.

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here do not need to be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Many of the needs of the 2010 Assessment remain.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Research	Y	Need to assess cumulative impacts related to climate change; need to assess and review LCPs to incorporate adaptation strategies. Need to expand evaluation of policy implementation in all priority areas. Need for quantitative evaluation of implementation issues to develop more up to date policies, conditions, and mitigation measures.
Mapping/GIS	N	
Data and information management	Y	Need to assess cumulative impacts related to climate change; need to assess and review LCPs to incorporate adaptation strategies. Need more efficient access to digital planning and policy information
Training/Capacity building	Y	Need expanded online training for local and commission staff. New analysts may have minimal training or experience in coastal planning or coastal development permitting. Materials are needed to ensure that new planners are able to understand basic Coastal Act policies and procedures, LCP development and amendment processes and more recent planning and regulatory approaches for all major policy areas of Chapter 3 of the Coastal Act.
Decision-support tools	N	

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Communication and outreach	Y	While the agency has made recent strides in this area through the Coastal Data Management System (CDMS) so that many of the Commission's actions have been scanned and can now be more easily accessed by Commission staff, there remains a need to continue to develop improved access for local planners and the public. For example, the Commission staff recently provided web based access to Statewide Appealable Permit information.
Other (Specify)		

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?

Yes _____
No X

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

The gaps and needs identified are important ones but the completion and update of LCPs (see Special Area Management Plan section of this report) remains a higher priority for the Commission as well as the public that provided initial input to this Assessment. LCPs are also a priority of the agency's Strategic 2013-2018 Strategic Plan. The Commission will likely initiate an update to the Agency 2013-2018 Strategic Plan beginning in 2017 and this 2016-2020 309 Strategy may later be amended to track with any new or revised priorities established at that time.

SPECIAL AREA MANAGEMENT PLANNING

In-Depth Resource Characterization:

Purpose: To determine key problems and opportunities regarding the preparation and implementation of special area management plans for important coastal areas.

1. What are the one to three most significant geographic areas facing existing or emerging challenges that would benefit from a new or revised special area management plan (SAMP) or better implementation of an existing SAMP? For example, are there areas where existing management approaches are not working and could be improved by better coordination across multiple levels of government? What challenges are these areas facing? Challenges can be a need for enhanced natural resource protection; use conflicts; coordinating regulatory processes or review; additional data or information needs; education and outreach regarding SAMP policies; or other (please specify). When selecting significant challenges, also consider how climate change may exacerbate each challenge.

	Geographic Scope <small>(within an existing SAMP area (specify SAMP) or within new geographic area (describe new area))</small>	Challenges
Geographic Area 1	21 Jurisdictions that have been awarded 23 Commission grants to complete or update LCPs including to address Sea Level Rise.	Providing data, technical assistance and regional coordination on updating policies and ordinances and resolving use conflicts
Geographic Area 2	An estimated 50 other jurisdictions planning to complete or to comprehensively update their LCP.	Providing data, technical assistance and regional coordination on updating policies and ordinances and resolving use conflicts
Geographic Area 3	Jurisdictions with older LCPs that have no current plans to update.	Financial assistance and other incentives to target jurisdictions with older, dated LCPs to update with new information and policy standards

2. Briefly explain why these are currently the most significant challenges that may require developing a new SAMP, or revising or improving implementation of an existing SAMP. Cite stakeholder input and/or existing reports or studies to support this assessment.

Within California’s Coastal Management Plan (CCMP), Local Coastal Programs (LCPs) are considered the equivalent of the CZMA Section 309(a)(6) definition of *Special Area Management Plans (SAMPs)* for important coastal areas. Under the California Coastal Act, local governments are required to complete LCPs (which should include: (a) land use plans, (b) zoning ordinances, (c) zoning district maps, and (d) within sensitive coastal resources areas, other implementing actions) that are sufficiently detailed to indicate the kinds, location, and intensity of land uses, the applicable resource protection and development policies and, where necessary, a listing of implementing actions. In addition, the Commission continues to review and maintain special area plans for the four industrial ports, public

works planning for special districts, including important State Park units, long range development plans for university properties, plans for the siting of energy facilities, and review of management plans for federal properties.

Local Coastal Programs

The LCP consisting of a Land Use Plan and Implementing ordinances, is a key mechanism for implementing the policies of the Coastal Act at the local level.

There are currently 76 different coastal jurisdictions. Coastal Act Section 30511(c) allows jurisdictions to submit LCPs in separate geographic units. As of October 2014, the jurisdictions are currently divided into 126 geographic LCP planning segments. Of those, 92 segments have Commission-certified LCPs. The local governments having jurisdiction within the 92 certified segments issue coastal development permits (CDPs). Yet many of these plans are over 20 years old and have not been updated to address new information and changed conditions, including the threats from climate change.

Since 2009 to March 2014, the Commission certified three new LCPs for LCP planning segments⁵⁸ and approximately 17⁵⁹ jurisdictions have completed partial or comprehensive updates to their LCPs with about 9 of those updates including updated policies to address sea level rise.

As of June 30, 2014, approximately 34 LCP segments of jurisdictions remain uncertified and there are 50 Areas of Deferred Jurisdiction (ADCs) which are geographic areas that were not certified when the remainder of the LCP was certified. They remain in jurisdiction of the Commission until and LCP is developed for the ADC. Assisting local governments in completing their LCPs and ADCs and updating older LCPs is a high priority of the Commission.

Since the last Assessment, the Commission has continued to build on efforts to incorporate climate change analysis and adaptation policies into the LCPs. The Commission continues to address potential sea level rise in considering shoreline armoring and to incorporate new scientific information into this analysis. In October 2013, the Commission published a review draft of the Commission's guidance for addressing climate change, sea level rise, and other adaptation measures in LCPs, consistent with the Coastal Act and the 2009 California Climate Adaptation Strategy (CAS).

<http://www.coastal.ca.gov/climate/slrguidance.html>

In FY13-14 and FY14-15, the Commission awarded 23 LCP planning grants to complete or update LCPs, with an emphasis on addressing sea level rise. Funding was also available to both the Ocean Protection Council for grants to local governments to address climate change, with an emphasis on completing or updating LCPs to address sea level rise. Future funding has been proposed in the Governor's FY 15-16 budget, so there are likely to be additional planning efforts funded to complete or update LCPs. This LCP planning will be underway during the Section 309 2016-2020 Strategy period, and program enhancements to help local government awarded grant funds to develop policies and implementation to address sea level rise will be a high priority for program enhancement. The potential to coordinate regional data sharing and development of regional approaches to addressing sea level rise is also high, but will need additional resources to undertake. There remains a great need for more guidance and information on the best available adaptation practices, especially on a regional or sub-regional basis.

⁵⁸ City of Redondo Beach Area B, City of Seaside and Los Angeles County Santa Monica Mountains segment.

⁵⁹ <http://documents.coastal.ca.gov/reports/2014/3/W5a-3-2014.pdf> and http://www.coastal.ca.gov/la/FY13_14_LCPStatusSummaryChart.pdf

Because all LCPs function as special area management plans for important coastal areas, they need to be updated in order to be legally adequate at addressing the changes in coastal management. In addition, technical assistance guidance and outreach will be needed to address other cumulative impacts issues, some related to adaptation and some related to other priority issues such as Public Access.

Other Local or Regional Planning Efforts

In addition to LCPs, there are other local and regional planning efforts (such as Sustainable Communities Strategies containing land use housing and transportation strategies to reduce greenhouse gas emissions (GHGs), Regional Transportation Plans (RTPs), Habitat Conservation Plans (HCPs), and Natural Communities Conservation Plans (NCCPs) that may impact coastal development plans and permits. Staff involvement with these planning efforts is limited due to a lack of sufficient staff resources. Where SAMPs have been developed in the coastal zone as a result of cooperative efforts by the Commission staff, local governments, and other entities, the result has been that the resource protection plans reflect the LCP policies and ordinances of the jurisdiction and the plans are likely to be amended into the LCP. However, only a small majority of the plans have been incorporated into the LCP. This results in misinformation regarding development standards and allowable uses of land since the LCP is the statutorily binding planning document and vision for coastal resource management, public access and development in the coastal zone.

Reviews of some SAMPs have occurred through federal consistency authority. Since 2009, the Commission has reviewed 8 Consistency Determinations or Negative Determinations for various Management Plans. For a list of actions, please see the Phase I assessment. However, staff did not participate in many of these plan creations and the majority of the above listed special area management plans have not been incorporated into the existing certified LCPs.

3. Are there emerging issues of concern, but which lack sufficient information to evaluate the level of the potential threat? If so, please list. Include additional lines if needed.

Emerging Issue	Information Needed
Regional Coordination and Sharing of Best Practices on climate adaptation	Implementation framework and staffing. Tools to better track and sharing information developed through LCP Grants/LCP Planning
Climate change and sea level rise; impacts to access and coastal resources from shoreline armoring and of erosion.	Information on potential impacts and development of policy and ordinance alternatives to assist local governments in LCP development. Enhanced procedures for condition compliance.
Impacts on existing public access from continued growth and development, including from parking and transportation changes. Impacts to public access from conversion of affordable accommodations.	Information on potential impacts and development of policy and ordinance alternatives to assist local governments in LCP development. Quantitative evaluation of policy implementation.
Impacts from growth and development on the protection of priority land uses.	Information on potential impacts and development of policy and ordinance alternatives to assist local governments in LCP development. Quantitative evaluation of policy implementation.

In-Depth Management Characterization:

Purpose: To determine the effectiveness of management efforts to address identified problems related to the special area management planning enhancement objective.

1. For each additional SAMP management category below that was not already discussed as part of the Phase I assessment, indicate if the approach is employed by the state or territory and if significant state- or territory-level changes (positive or negative) have occurred since the last assessment.

Management Category	Employed by State or Territory (Y or N)	CMP Provides Assistance to Locals that Employ (Y or N)	Significant Changes Since Last Assessment (Y or N)
SAMP research, assessment, monitoring	Y	Y	Y
SAMP GIS mapping/database	Y	Y	Y
SAMP technical assistance, education, and outreach	Y	Y	Y
Other (please specify)			

2. For management categories with significant changes since the last assessment briefly provide the information below. If this information is provided under another enhancement area or section of the document, please provide a reference to the other section rather than duplicate the information.
 - a. Describe significant changes since the last assessment;
 - b. Specify if they were 309 or other CZM-driven changes; and
 - c. Characterize the outcomes or likely future outcomes of the changes.

SAMP research, assessment, monitoring

a. Significant changes since last assessment. As noted above, since 2009, 17 New LCPS updated including many including new policies to address sea level rise. In addition, the Commission awarded 24 planning grants for completion of or update of LCPs with an emphasis on addressing sea level rise.

b. Specify if they were 309 or other CZM-driven changes. While the grant awards funded through other state funds, 309 guidance documents (discussed in Phase I and below) and communication initiatives contributed to these efforts.

c. Characterize the outcomes or likely future outcomes of the changes. New or revised polices and implementing ordinances to guide future development, including consideration of sea level rise projections in new or updated LCPs. Amended and/or updated LCPs incorporate policies and standards to address the Commission’s high priority enhancement areas, including updated hazards, access,

wetlands and other ESHAs, and cumulative impacts. The Commission usually reviews about 35 to 70 LCP Amendments annually⁶⁰. As a result, the policies and standards of any of the LCP amendments, once effectively certified by the Commission, become standards for local government issuance of coastal development permits (CDPs). Commission staff monitors locally-issued coastal permits approved pursuant to certified LCPs and under certain circumstances can appeal the locally-issued CDP to ensure LCP implementation consistent with the Coastal Act.

SAMP GIS mapping/database

a. Significance changes since last assessment. The Commission staff designed and implemented the Coastal Data Management System (CDMS) (May 2013) to better track information related to the Commission's planning and regulatory program. The CDMS will allow enhanced tracking of LCP planning activity at all stages from pre-submittal coordination to certification and post certification monitoring, thus allowing staff to better monitor and evaluate changes to public access and coastal resources.

b. Specify if they were 309 or other CZM-driven changes. Both 309 and other funds were used in the development of the CDMS. The agency's 309 program staff provided input to the CDMS design.

c. Characterize the outcomes or likely future outcomes of the changes. The outcome of this work will ensure more efficient and effective reporting for the CZMA Performance Measurements System (CZMAPMS), allow for expanded and more focused data collection to enhance policy and program evaluation and more effective monitoring of LCP planning activity in order to enhance the LCP program.

SAMP technical assistance, education, and outreach

a. Significance changes since last assessment. Significant guidance and assistance was provided in order to enhance the LCP Program and to ensure the LCP updates addressed emerging issues and new information. Guidance documents included:

- *The California Coastal Commission Draft Sea Level Rise Policy* Guidance that provides guidance for local governments in developing LCPs and in reviewing coastal development permits.
- *Administrative Draft: Procedural Guidance Document: Protecting and Providing Lower Cost Overnight Accommodations through Local Coastal Program Updates and Development Permits* that includes policy and procedural guidance for Commission regulatory actions and local government LCPs on addressing ways to protect and provide access to affordable overnight accommodations consistent with the Coastal Act.
- *The Expanded Implementation of an In Lieu Fee Mitigation Program: Recommendations for Priorities and Implementation Strategy* to help ensure that mitigation from development impacts is effectively implemented.
- *The LCP Update Guide: Part I - Updating LCP Land Use Plan (LUP) Policies* that provides Commission and local government staff with guidance for revising LCPs to reflect new information and changed conditions related to Coastal Act policy issue areas.
- *The LCP Update Guide: Part II - Updating LCP Implementation Plan (IP) Procedures* (in January 2011) which contains guidance on updating the procedural components of LCPs concerning permit and appeal procedures. Part II of the LCP Update Guide suggests ways for local

⁶⁰ <http://documents.coastal.ca.gov/reports/2014/3/W5a-3-2014.pdf>

government to keep zoning ordinances and implementation procedures current and responsive to changed circumstances and new issues

There have also been significant LCP program enhancements in communication with the local government partners and in mechanisms to improve the efficiency and effectiveness of the LCP development and amendment process. These included:

- Established a Local Government working Group of city and county officials to assist in implementing improvements to the LCP certification and amendment process, and participating in meetings of the Coastal Groups within the League of California Cities (LOC) and the California State Association of Counties (CSAC).
- Implemented a Local Government-Coastal Commission Workshop on Improving the LCP Process in coordination with the League of Cities (LOC) and the California State Association of Cities (CSAC).
- Implemented Workshop follow up actions which are resulting in increased early coordination to resolve policy conflicts and shorter processing times for LCP Amendments.
- Developed Procedural Guidance *TIPS/ BEST PRACTICES FOR PROCESSING LCP AMENDMENTS* at http://www.coastal.ca.gov/la/TipsLCPAmend_Nov2013.pdf
- Compiled resources to aid communication and dissemination of LCP policy guidance with Coastal City and County Planning Directors.
- Commission staff completed the *“Report on Available LCP Planning & Implementation Guidance for Local Governments,”* which outlines measures to guide future local government technical assistance priorities.
- Developed and implemented new tools to improve information sharing, including: a staff survey, whose responses will inform how the Commission staff access policy and procedural guidance, and a new section of the Commission’s website for communicating policy information with local government and the public. The *“Recent Coastal Program Policy Briefings to the Commission”* website page hosts links to video presentations and reports on various Commission policy topics to provide information and training for local planners and general public.
- Initiated development of a Digital LCP Library which, when fully implemented, will enhance the LCP program by facilitating sharing of best practices and policies for inclusion in LCP updates, and provide the public and local governments a more efficient means to access certified LCPs through an easily searchable web-based library.

b. Specify if they were 309 or other CZM-driven changes. Most of these efforts were either funded through the 309 enhancement program or driven by the need to provide guidance and technical assistance to local governments in undertaking updates of their LCPs.

c. Characterize the outcomes or likely future outcomes of the changes. These program changes provided guidance to incorporate into updated LCP policies and ordinances to guide permit review.

3. Identify and describe the conclusions of any studies that have been done that illustrate the effectiveness of the state's or territory's special area management planning efforts since the last assessment. If none, is there any information that you are lacking to assess the effectiveness of the state's or territory's management efforts?

The California Coastal Commission's LCP Program: Background and Report on Program Implementation March, 2014 is a recent overview of the Commission LCP. The report is located at <http://documents.coastal.ca.gov/reports/2014/3/W5a-3-2014.pdf>

Identification of Priorities:

1. Considering changes with coastal resource protection or coastal use conflicts within defined geographic areas, special area management planning activities since the last assessment, and stakeholder input, identify and briefly describe the top one to three management priorities where there is the greatest opportunity for the CMP to improve their ability to prepare and implement special area management plans to effectively manage important coastal areas.
(Approximately 1-3 sentences per management priority.)

Management Priority 1: LCP Planning supported by CCC Grants

Description: The 21 local jurisdictions awarded the 23 LCP planning grants are the highest priority for program enhancements that will assist local governments preparing and implementing updated LCP policies and ordinances to better manage coastal resources and public access and especially in the area of sea level rise and climate change adaptation.

Management Priority 2: LCP Planning Locally Initiated

Description: The estimated 21 local jurisdictions not awarded grants that are initiating planning efforts to complete new LCPs or to update certified LCPs in whole or in part, including LCPs for Areas of Deferred Certification (ADCs).

Management Priority 3: Post Certification Monitoring and Periodic Review

Description: Improvements to the monitoring of Locally Issued Coastal Development permits under certified LCPs and development of improved evaluation and feedback mechanisms is a priority objective of the agency Strategic Plan (Objective 4.5).

2. Identify and briefly explain priority needs and information gaps the CMP has to help it address the management priorities identified above. The needs and gaps identified here do not need to be limited to those items that will be addressed through a Section 309 strategy but should include any items that will be part of a strategy.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Research	Y	Need for information on impacts and adaptation measures for climate change issues in additions to sea level rise. Financial and legal models that support planned retreat. Need for information on other priority issues to provide guidance to update of LCPs,
Mapping/GIS	Y	Update and conversion of GIS data layers of past cumulative impacts studies (e.g. ReCAP) and new GIS data layers for other geographic areas to assist in LCP Planning.
Data and information management	Y	Expanded quantitative evaluation of policy implementation in all enhancement areas. Enhanced mechanisms to facilitate post certification monitoring and evaluation.
Training/Capacity building	Y	Expanded training for both Commission and local staff in the LCP program and in other enhancement areas. Improved local enforcement capacities
Decision-support tools	Y	Enhanced procedures for post LCP certification monitoring and evaluation and for condition compliance and monitoring.
Communication and outreach	Y	Improved communication with local partners. Enhanced mechanisms to share best practices and policies. Development of ways to implement better regional coordination.
Other (Specify)	Y	Staff and financial resources for local governments to update LCPs.

Enhancement Area Strategy Development:

1. Will the CMP develop one or more strategies for this enhancement area?

Yes X
No

2. Briefly explain why a strategy will or will not be developed for this enhancement area.

Enhancement of the LCP Program is a high priority for the Commission in its Agency 2013-2018 Strategic Plan and of all of the initial stakeholder respondents, the highest percentage ranked LCPs as the top priority for the agency. The policies of the Coastal Act are implemented at the local level through certified LCPs that detail the kinds, location and intensity of development and implementing ordinances. These plans need to be kept up to date to adequately manage coastal resources. Policy evaluation needs to continue to provide guidance for such revisions and updates and compliance with regulatory mitigation needs to be enhanced. Even as LCPs are updated there is a need to strengthen the monitoring and amendment process as a feedback loop and ensure continual update so the LCP does not again become dated. A strategy to continually enhance this planning program is an important need. The Commission will likely initiate an update to the Agency 2013-2018 Strategic Plan beginning in 2017 and this 2016-2020 309 Strategy may later be amended to track with any new or revised priorities established at that time

STRATEGY

STRATEGY OVERVIEW

The Commission’s CZMA 309 Enhancement Strategy for FY 2016-2020 consists of two complimentary strategies. These strategies will result in program changes in three of the high priority enhancement areas identified in the Assessment: Coastal Hazards, Public Access, and Special Area Management Planning (also considered LCPs).

The strategy for **Management Options to Protect Public Trust Lands and Resources** will develop, in consultation with the State Lands Commission, a framework for protection of public trust lands and resources by assessing the impacts of sea level rise and of shoreline armoring and other hazard mitigation responses on public trust lands and resources, and for ensuring continued access and recreation and protection of other public trust resources such as marine habitat. This strategy will address Agency Strategic Plan Action item 3.1.7 to coordinate with the State Lands Commission to address sea level rise and shoreline change and implications for the management of public trust resources.

The strategy to **Strengthen Technical Assistance for Local Coastal Program (LCP) Planning and Implementation** directly addresses identified needs in Coastal Hazards, Public Access, as well as SAMPs and will complement work done under the other strategy. Updating LCPs and the Commission’s regulatory program to address the impacts of climate change is a high priority. Sea level rise will continue to exacerbate shoreline erosion hazards that the Commission must address in coastal development proposals; and, it will directly affect public beach access and recreation resources, particularly as we respond to coastal hazards with shoreline structures that adversely affect public trust lands and coastal resources. It will also update post certification procedures as provided in the Agency Strategic Plan items 4.5.1 and 4.5.3.

Note: The description of both strategies follows a pre-set format that the Commission is required to follow according to OCM’s guidelines.

Table 1. Five-Year Budget Estimate by Strategy

Strategy Title	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
Management Options to Protect Public Trust Land Resources	\$224,500	\$212,500	\$212,500	\$212,500	\$212,500	\$1,074,500
Strengthening Technical Assistance for LCP Planning and Implementation	\$174,000	\$174,000	\$174,000	\$174,000	\$174,000	\$870,000
Total Projected Funding	\$398,500	\$386,500	\$386,500	\$386,500	\$386,500	\$1,944,500

Note: Table 1 is an estimate of funding levels for each Strategy Area; the Commission expects that allocations for Years 2 – 5 may change in the grant applications for each of those fiscal years.

STRATEGY 1: MANAGEMENT OPTIONS TO PROTECT PUBLIC TRUST LANDS AND RESOURCES

I. Issue Area(s) Hazards and Public Access

The proposed strategy or implementation activities will support the following high-priority enhancement areas (*check all that apply*):

- | | |
|--|---|
| <input type="checkbox"/> Aquaculture | <input type="checkbox"/> Cumulative and Secondary Impacts |
| <input type="checkbox"/> Energy & Government Facility Siting | <input type="checkbox"/> Wetlands |
| X Coastal Hazards | <input type="checkbox"/> Marine Debris |
| <input type="checkbox"/> Ocean/Great Lakes Resources | X Public Access |
| <input type="checkbox"/> Special Area Management Planning | |

II. Strategy Description

- A. The proposed strategy will lead to, or implement, the following types of program changes (*check all that apply*):

- A change to coastal zone boundaries;
- X **New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;**
- X **New or revised local coastal programs and implementing ordinances;**
- New or revised coastal land acquisition, management, and restoration programs;
- New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
- X **New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.**

B. Strategy Goal: Adaptive Framework for Protection of Public Trust Lands and Resources.

The goal of this Strategy will be to develop, in consultation with the State Lands Commission, a framework for protection of public trust land resources by assessing the impacts of sea level rise and of shoreline armoring and other hazard mitigation responses on public trust lands, and ensuring continued public access and recreation and protection of other public trust land resources such as marine habitat. This will address Agency Strategic Plan Action item 3.1.7:

3.1.7 Coordinate with the State Lands Commission to address sea level rise and shoreline change and implications for the management of public trust resources.

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above.

As sea level rises it will affect the boundary of public trust lands and the ability of the public to access and use those public trust lands. Hazard mitigation responses will potentially impact public trust resources, including access, recreation, and natural resources. This strategy will develop new information and an enhanced framework for protecting public access to public trust lands and public trust land resources. Staff will coordinate with the State Lands Commission staff to identify shared issues, needs and objectives, and will further scope a potential pilot project to evaluate what happens to the public trust lands and resources given projected sea level rise and the shoreline armoring or other hazard mitigation authorized in response to the impacts. Through the activities identified in the initial scoping, the strategy will: 1) determine the current conditions of trust lands in a pilot area; 2) develop criteria for how impacts to public trust land and resources, including public access, will be assessed and evaluated; 3) summarize and evaluate the legal considerations concerning the public trust boundary; 4) identify short and longer term mitigation measures for impacts of shoreline hazard response on public trust resources; 5) identify opportunities for enhanced coordination and collaboration between the Coastal Commission and State Lands Commission; and 5) relying on the results of the other tasks, develop guidance for coastal development permits and/or updates to Access and /or Hazard components of LCPs.

III. Needs and Gaps Addressed

The Hazards Assessment and Public Access Assessment identified the need to develop options to protect public trust lands and resources as a management priority. The Public Access Assessment identified the development of shoreline protection in response to sea level rise as an impact on public access. One impact from such development is the fact that shore protection devices fixes the back beach and thus raise the potential for shore protection to impact public trust lands as the line between public and private lands will shrink with sea level rise. Public trust lands may also be lost through permanent submergence due to rising seas. This strategy will develop options and support for ways to protect public access and recreation on public trust lands that can be carried out through LCP policies ordinances as well as regulatory permit decisions. It will also consider ways to encourage hazard avoidance (in land use policies or permits) to protect public trust lands.

IV. Benefits to Coastal Management

This strategy will help to identify ways to more fully protect the state's lands and resources as well and the public's access to those lands. It may also provide information to the State Lands Commission in their own efforts to better consider future processes and mitigation strategies for public trust boundary determinations, leases or use authorizations.

V. Likelihood of Success

The strategy will be implemented through guidance for permit review and local coastal planning and in consultation with the State Lands Commission which is the agency tasked with managing state lands. Because the State Lands Commission is also considering adaptation strategies, the strategy

will be more likely to meet the objectives of both public land management and planning and regulation needs.

VI. Strategy Work Plan

Strategy Goal: Framework for Protection of Public Trust Lands and Resources. To develop, in consultation with the State Lands Commission, a framework and potential strategies to assess and to protect against permanent loss of public trust lands from submergence of formerly intertidal areas and ensure continued public access and recreation while allowing for the protection of existing private structures and public facilities/infrastructure given projected impacts of sea level rise.

Total Years: 5

Total Budget: \$1,074,500

Year(s): 1 – (2016)

Description of activities: Develop a Coordination Plan with the State Lands Commission (SLC) and other sister State agencies that may include Department of Parks and Recreation, and the California Department of Transportation (Caltrans). Conduct initial coordination to identify common needs and objectives and to further identify the scope of the project. Identify the area for potential conduct of a pilot project.

Major Milestone(s): Report on objectives and common program needs. Refined work plan.

Budget: \$224,500

Year(s): 2 (2017)

Description of activities: Conduct Pilot Project: 1) assessment of current conditions of beach area, and determine impacts of coastal armoring in the study area. Assessment will identify and analyze past Commission coastal armoring permits, quantify amount of sandy beach covered/lost to the structures, review past permit conditions for compliance, and determine success of mitigation imposed; 2) assessment of current conditions of the public trust lands, and identify risks to the those lands from rising sea levels, installation of seawalls and other factors; 3) identify potential mitigation measures to abate adverse impacts to public trust lands associated with shoreline armoring

Major Milestone(s): Report on Results of Pilot Project – Phase 1. Consider amendments to Strategy to align with projected update of Agency Strategic Plan in 2018

Budget: \$212,500

Year(s): 3 (2018)

Description of activities: Develop criteria to assess and evaluate impacts from shoreline armoring and other coastal development to public trust land and public access to and along the shoreline, analyze legal considerations by in house experts and coordination with sister agencies, as well as possible use of consultants, and then develop short and longer term mitigation strategies that could include avoidance of impact, re-location of public trust activities outside area of impacted zone, in-lieu fees to provide funding for off-site public access improvements, etc.

Major Milestone(s): Report on Results of Pilot Project – Phase 2. Consider amendments to Strategy to align with projected update of Agency Strategic Plan in 2018

Budget: \$212,500

Year(s): 4-5 (2019-2020)

Description of activities: Based on information and data developed from the Pilot Project, expand to develop draft guidance for coastal permits and/or updates to Access and /or Hazard components of LCPs. Hold public meetings to provide input prior to finalizing guidance. Coordinate with the training program priorities and plan outlined in Strategy 2.

Major Milestone(s): Planning and Regulatory Guidance Document; Coordinate with Strategy 2 Training Program to provide Commission and local staff training on guidance.

Budget: \$212,500 each year

VII. Fiscal and Technical Needs

A. Fiscal Needs:

The 309 Funds will fund the core development of this strategy.

B. Technical Needs:

Legal staff assistance will be needed for key aspects of the pilot project. Coordination with the State Lands Commission will provide additional expertise in management of state lands and boundary determinations.

STRATEGY 2: STRENGTHENING TECHNICAL ASSISTANCE FOR LOCAL COASTAL PROGRAM (LCP) PLANNING AND IMPLEMENTATION

I. Issue Area(s)

The proposed strategy or implementation activities will support the following high-priority enhancement areas (*check all that apply*):

Aquaculture

Energy & Government Facility Siting

Coastal Hazards

Ocean/Great Lakes Resources

Special Area Management Planning

Cumulative and Secondary Impacts

Wetlands

Marine Debris

Public Access

II. Strategy Description

A. The proposed strategy will lead to, or implement, the following types of program changes (*check all that apply*):

A change to coastal zone boundaries;

New or revised authorities, including statutes, regulations, enforceable policies, administrative decisions, executive orders, and memoranda of agreement/understanding;

New or revised local coastal programs and implementing ordinances;

New or revised coastal land acquisition, management, and restoration programs;

- New or revised special area management plans (SAMP) or plans for areas of particular concern (APC) including enforceable policies and other necessary implementation mechanisms or criteria and procedures for designating and managing APCs; and,
X New or revised guidelines, procedures, and policy documents which are formally adopted by a state or territory and provide specific interpretations of enforceable CZM program policies to applicants, local government, and other agencies that will result in meaningful improvements in coastal resource management.

B. Strategy Goal: Develop on-line (web based) guidance and training program to assist local governments in the development of new and updated Local Coastal Program (LCP) policies and ordinances that address priority enhancement areas, including policies and ordinances related to sea level rise (SLR) vulnerability/hazard assessment and SLR resiliency/adaptation strategies. The goal of this strategy is to provide guidance and a training program, preferably web based, to assist local governments and Commission staff in the preparation of new LCPs or updates of existing LCPs. This guidance will focus first on the LCP Program and on policies and ordinances related to SLR vulnerability/hazard assessment and SLR resiliency/adaptation strategies. However, it could be expanded to include guidance and training on policies and ordinances related to other priority enhancement areas such as Public Access and Wetlands, especially as these may overlap with resiliency guidance and training.

This on-line guidance and training program will provide key policy and planning information to local jurisdictions recently awarded state planning grants or as part of other planning efforts to complete new LCPs or comprehensive LCP updates. The program will help to ensure that new or updated LCPs include updated policies and/or ordinance provisions that address SLR resiliency and adaptation, including adaptation measures related to public access. The on-line guidance will also contain suggested updated procedures to ensure effective post LCP certification implementation. This strategy will help to implement, in part, the following actions of the Agency's 2013-2018 Strategic Plan:

- 4.2.3 *Provide and update online guidance to local governments for updating LCPs to improve the transmittal of key planning and policy information related to:*
- (a) Climate change impacts, adaptation, and mitigation;*
 - (b) Shoreline protective options and mitigation strategies;*
 - (c) Evaluation of ESHA;*
 - (d) Wetland delineations; and*
 - (e) Protection of agricultural lands*
- 4.4.5 *Increase training on the LCP program and key coastal zone policy issues for local staff and officials as requested and feasible. Present background information on the Coastal Act and LCP implementation to local governments as requested and feasible.*
- 4.5.1 *Evaluate post-certification monitoring procedures and requirements; develop recommendations for improved final local action noticing, tracking, review, evaluation, reporting, and feedback to local governments.*

- 4.5.3 *Provide guidance and staff training to improve and streamline post-certification monitoring as appropriate.*
- 3.1.2 *Based on the general SLR policy guidance, identify and develop specific regulatory guidance for addressing coastal hazards, including recommendations for analytic methods for accounting for SLR and increased storm events in project analysis, standards for redevelopment and development in hazard zones (e.g. bluff top and flood zones), buffers for coastal wetlands, and policies for shoreline structure design and impact mitigation*
- 3.1.3 *Develop work program to produce policy guidance for coastal permitting and LCPs to account for other climate change related impacts and adaptation planning including wetland, marine and terrestrial habitat protection, habitat migration, risk of wildfires, water supply and groundwater protection, etc.*
- 3.1.4 *Provide public information and guidance through workshops, presentations to local government, etc. Assist local governments with interpretation of scientific or other technical information related to climate change and sea level rise that could be of use in adaptation planning.*

C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above.

The strategy will first complete a needs assessment that will identify the most immediate, priority needs for guidance and training to assist local staff and to better ensure early coordination in LCP update planning to ensure LCP development consistent with Coastal Act policies. This needs assessment will rely in part on experience of District staff and local governments working on FY 13 and FY 14 LCP grant work. It will also identify important guidance that may take longer to develop and provide. Staff will research and evaluate the most effective mechanisms for delivering the guidance and training, including alternatives for online tools and training. The initial work of the strategy will be to rapidly provide the guidance that addresses the most immediate priorities.

To accomplish this, the strategy will be designed to implement projects that address needs in:

- Communication and Information Sharing – by developing ways to better coordinate and share climate adaptation information, especially on a regional basis, among local government undertaking LCP planning;
- Decisions Support tools – by researching and developing new guidance on policies and ordinances, and effective post certification monitoring and evaluation; and,
- Training/Capacity building – by establishing a training program for local governments and Commission staff, including online resources.

Staff experience has shown that an effective way to increase knowledge and capacity in an efficient way is to do so through regional coordination meetings and/or workshops. As part of developing a training program, staff will establish and carry out a program for regional coordination meetings on key priority topics such as sea level rise vulnerability assessment/adaptation and environmentally sensitive habitat (ESHA) protection, with an emphasis on completing or updating LCPs. Staff will also research possible ways to facilitate local governments sharing information among coastal jurisdictions.

The strategy will also include a component to address the particular issues relating to improving the implementation of LCPs following certification through improved the post-certification noticing and appeal processes, and updated local guidance for post certification procedures to assist local planners new to LCP implementation.

Implementing the strategy will help ensure that LCPs developed and submitted for certification will include updated provisions to carry out state Coastal Act policies at the local level to better manage coastal resources, public access and climate change/SLR resiliency.

III. Needs and Gaps Addressed

This strategy addresses several priority needs identified in the Phase II Assessment including the need for: (1) research to provide guidance to update of LCPs, (2) decision and support tools to improve evaluation and post certification monitoring, and (3) expanded training and capacity building of both Commission and local government staff.

Given the need to update LCPs certified decades ago and the recent state sponsored financial assistance grants for local planning, there are substantial LCP planning efforts underway at the local level. Early coordination with local jurisdictions is a key part of the LCP planning effort and enhanced technical assistance will assure that hazard, SLR resiliency, public access policies, as well as other priority enhancement areas, reflect the best available information and practices and will be included in the new or updated LCPs. Because LCPs are developed by local governments, the provision of such guidance and early coordination is one of the most effective and efficient means for the Commission to ensure that the LCPs submitted for certification comply with Coastal Act policies.

Along with the guidance, implementation of training and regional coordination programs will also assist local government planning staff to better understand and apply such guidance. This strategy will assist in improving communication and collaboration with local governments and the public and will facilitate sharing of policy information. Efforts to evaluate and improve the post certification implementation of LCPs will also strengthen the feedback mechanism in the LCP planning program that is designed to evaluate and respond to issues in plan implementation.

IV. Benefits to Coastal Management

This strategy is intended to ensure more effective guidance and technical assistance to local governments, Commission staff, stakeholders, and the public in efficient and effective ways and thus result in updated LCPs that incorporate new and improved policies and ordinances. Such updated LCPs then provide enhanced coastal management through local implementation and permitting under the LCP consistent with the Coastal Act. Over time, implementation of such policy improvements may result in reducing the number of appeals of local permit decisions processed by the Commission; provide effective policies and ordinances for SLR resiliency/adaptation planning; and allow for improved and more effective coastal resource management.

V. Likelihood of Success

There is substantial LCP planning underway supported by various Commission and other state agency grant programs. This is resulting in increased demand for the regional coordination, technical assistance, training and guidance outlined in this strategy. In addition to local commitment to this LCP planning, the Commission staff continues its strong commitment to early coordination and participation in LCP planning efforts. Given this high demand, and significant financial commitment of both state and local government, it is very likely the strategy will help successfully achieve program changes through the certification and implementation of updated LCPs and improved coastal permitting.

VI. Strategy Work Plan

Strategy Goal: Develop on-line (web based) guidance and training program to assist local governments in the development of new and updated Local Coastal Program (LCP) policies and ordinances that address priority enhancement areas, including policies and ordinances related to sea level rise (SLR) vulnerability/hazard assessment and SLR resiliency/adaptation strategies. For climate adaptation it will build on the Commission's Sea Level Rise Guidance, the Safeguarding California Plan and will coordinate with other state and federal efforts (such as by the State Coastal Conservancy, the Ocean Protection Council or the federal Office for Coastal Management) for training and outreach in order to best leverage resources. More specifically, this strategy will utilize NOAA's Office for Coastal Management training resources and the NERR's Coastal Training Program (CTP) and others to the extent available and appropriate. The guidance and training will also address other new information related to other Chapter 3 Coastal Act policy areas such as ESHA and public access and general background training for planners new to the California Coastal Management Program. This includes training on new guidance, findings and results from other recently completed 309-funded projects including the FY 2012 Project of Special Merit on beach evaluation methods, and others when completed, like the FY 2014 Project of Special Merit on shoreline resilience.

Total Years: 1-5

Total Budget: \$870,000

Year(s): 1 (2016)

Description of activities: Background research and initial program design. The design of a training program will focus on both Commission staff knowledge development and transfer, and local government planners as well. It will require 1) a needs assessment to identify priority content for development or update. 2) Design of how best to deliver the training (which can include such things as updated documents, on line programs, workshops or special classes in conjunction with other agencies or local government institutes). This first year will also survey other state and federal training programs both for how they are designed and implemented as well as content and potential for partnerships. Research and identify best delivery options and any potential software, web development costs or other special resources needed to implement online delivery.

Major Milestone(s): Completion of background research including recommendations for what priority training should occur and the priorities for development of content. Development of one or more top priority training components as recommended by the background research. This could include such things as a module for training on the Commission Sea Level Rise Guidance, training new coastal planners in the LCP program, or post certification LCP implementation or training in the Coastal Act ESHA provisions. Results of background work on best delivery options will include

recommendations for initial priority training and on any resources needed in software or other information technology needs, including possible purchases and staffing resources.

Budget: \$174,000

Year(s) 2 (2017) Expand training. Following initial program development of Year 1, Year 2 will focus on expanding the content of training. It will also focus on ways to develop regional coordination.

Major Milestone(s): Complete one or more training modules on additional Coastal Act issue topics, according to the priorities established in Year 1. Consider available joint training opportunities with other partners. Conduct one or more regional coordination meetings.

Budget: \$174,000

Year(s): 3 (2018)

Description of activities: Develop post certification monitoring and evaluation improvements. In addition to the training in post certification implementation of LCPs through development of updated LCP guidance documents as part of a training program, the Commission may consider ways to make the post certification noticing and appeals process more efficient. This may include consideration of online transfer of Final Local Action Notices or online filings of appeals (although these activities may end up as recommended earlier in the 5 year period, depending on results of Year 1 and on priorities of the Information Technology Unit), or other revised procedures. This year (or possibly late 2017) the Commission may initiate an update of the Agency Strategic Plan. This year the Commission may develop 309 Enhancement Strategy Amendments to implement key actions of an updated Agency Strategic Plan for the priority enhancement areas.

Major Milestone(s): Revised procedures for post certification monitoring. Revisions if needed to priorities for training and LCP guidance based on updated Agency Strategic Plan.

Budget: \$174,000

Year(s): 4 (2019)

Description of activities Expand training content pursuant to updated Agency Strategic Plan. Develop any additional needed training or coordination programs.

Major Milestone(s): Complete one or more training modules on additional Coastal Act issue topics, according to the priorities as modified by the updated Agency Strategic Plan.

Budget: \$174,000

Year(s): 5 (2020)

Description of activities: Expand training content pursuant to updated Agency Strategic Plan. Develop any additional needed training or coordination programs.

Major Milestone(s): Complete one or more training modules on additional Coastal Act issue topics, according to the priorities as modified by the updated Agency Strategic Plan. Training may be coordinated with outreach and training under Year 5 of Strategy 1.

Budget: \$174,000

VII. Fiscal and Technical Needs

A. Fiscal Needs

The Commission will rely on 309 enhancement program funding as the primary sources for this strategy, but will contribute additional staff and management time from the Agency's state budget.

B. Technical Needs:

Depending on the state of agency staffing in both LCP Program and Information Technology Unit, the strategy may require additional technical staff or resources. If needed, the Commission may pursue those resources through all available funding sources.

5-YEAR BUDGET SUMMARY BY STRATEGY

Strategy Title	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
Management Options to Protect Public Trust Land Resources	\$224,500	\$212,500	\$212,500	\$212,500	\$212,500	\$1,074,500
Strengthening Technical Assistance for LCP Planning and Implementation	\$174,000	\$174,000	\$174,000	\$174,000	\$174,000	\$870,000
Total Projected Funding	\$398,500	\$386,500	\$386,500	\$386,500	\$386,500	\$1,944,500

Appendix: Wetlands 1

Wetlands 1: **PM#2. (formerly PM#9, #7) Coastal Habitat lost or gained due to core CZM regulatory program.**

PM#	Performance Measure	FY05 06	FY0607 ^a	FY0708 ^a	FY080 9	FY0910 ^e	FY101 1	FY111 2	FY121 3	FY131 4	TOTAL
		PM# 9	PM# 9	PM# 9	PM# 7	PM# 7	PM# 2	PM# 2	PM# 2	PM# 2	
	Tidal wetland acres created	Not required in FY05 06	210.4	0.63	3.00	10.00	not reqd	not reqd	not reqd	not reqd	not reqd
	Tidal wetland acres restored	Not required in FY05 06	0	198.24	248.20	12.80	not reqd	not reqd	not reqd	not reqd	not reqd
	Net Gain		210.4	198.87	251.2	22.8	208.30	425.80	28.85	19.72	1,365.9
	Tidal wetland acres lost	Not required in FY05 06	-3	-1.92	-55.90	-0.24	-0.30	-1.00	-0.01	-11.69	-74.1
PM 9.1	Total Tidal Wetland Habitat - total acres gained or lost	Not required in FY05 06	207.40	196.95	195.30	22.56	208.00	424.80	28.84	8.03	1,291.9
	Beach/dune acres created	Not required in FY05 06	3.6	0	0.00	0.00	not reqd	not reqd	not reqd	not reqd	not reqd
	Beach/dune acres restored	Not required in FY05 06	0	15.6	2.50	106.40	not reqd	not reqd	not reqd	not reqd	not reqd
	Net Gain		3.6	15.6	2.5	106.40	3.20	538.90	660.45	13.50	1,344.2
	Beach/dune acres lost	Not required in FY05 06	-0.4	-0.91	-0.04	-0.13	-0.30	-34.30	-0.29	-4.50	-40.9
PM 9.2	Total Beach/Dune Habitat - total acres gained or lost	Not required in FY05 06	3.20	14.69	2.46	106.27	2.90	504.60	660.16	9.00	1,303.3
	Nearshore habitat acres created	Not required in FY05 06	2.5	255.2	1.70	0.80	not reqd	not reqd	not reqd	not reqd	not reqd
	Nearshore habitat acres restored	Not required in FY05 06	0	17.43	0.12	0.00	not reqd	not reqd	not reqd	not reqd	not reqd

Coastal Commission 309 Assessment and Strategy for 2016-2020
September 2015

PM#	Performance Measure	FY05 06	FY0607 ^a	FY0708 ^a	FY0809	FY0910 ^e	FY1011	FY1112	FY1213	FY1314	TOTAL
		PM# 906	PM# 9	PM# 9	PM# 7	PM# 7	PM# 2	PM# 2	PM# 2	PM# 2	
	Net Gain		2.5	272.63	1.82	0.80	72.00	24.00	0.05	2.63	376.4
	Nearshore habitat acres lost	Not required in FY05 06	-3.1	-142.68	-0.39	-13.60	-1.50	0.00	-0.03	-0.89	-162.2
PM 9.3	Total Nearshore habitat (intertidal, subtidal, submerged) - total acres gained or lost	Not required in FY05 06	-0.60	129.95	1.43	-12.80	70.50	24.00	0.01	1.74	214.2
PM 9.4a	Total Other - Non-Tidal Wetland Habitat^b - Total acres gained or lost	Not required in FY05 06	35.1	16.9	20.03	34.67	6.7	29.50	3.60	22.35	168.9
PM 9.4b	Total Other - Riparian Habitat^c - Total acres gained or lost	Not required in FY05 06	not tracked	280.3	2.80	12.37	1.90	126.46	2.69	2.84	429.4
PM 9.4c	Total Other - Terrestrial Habitat^d - Total acres gained or lost	Not required in FY05 06	xx	71.5	1.43	2.99	23.10	123.10	85.37	853.69	1,161.2
^a Because some regulatory actions require further site-specific habitat mapping or planning, numbers reported here may under-represent actual totals.											
^b Non-tidal wetland habitat includes freshwater wetlands and vernal pools. .											
^c Riparian habitat includes both aquatic and terrestrial riparian habitats.											
^d Terrestrial habitats include: offshore islands; coastal bluff and bluff top; sensitive coastal scrub, chaparral, grassland, woodland habitats; and sensitive species habitats											
^e For FY0910 - the numbers reported include those collected both for CZMAPMS reporting and for CCC use.											