

**ASSESSMENT AND STRATEGIES
OF THE CONNECTICUT
COASTAL MANAGEMENT PROGRAM**

2016 to 2020 Enhancement Cycle

**SECTION 309
COASTAL ZONE MANAGEMENT ACT**

**Prepared by the
Connecticut Department of Environmental Protection
Office of Long Island Sound Programs**

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**CONNECTICUT'S COASTAL MANAGEMENT PROGRAM
SECTION 309 ASSESSMENT AND STRATEGIES
2016-2020 CYCLE**

I. INTRODUCTION

The Connecticut Department of Energy and Environmental Protection is pleased to provide this Assessment and Strategies for its coastal area management program in accordance with the June 2014 Guidance from NOAA's Office for Coastal Management. As in previous cycles, the Assessment evaluated Connecticut's regard to the nine areas of potential enhancement identified by the Federal Coastal Zone Management Act (CZMA), as amended. The so-called "309" enhancement areas are: wetlands, coastal hazards, public access, marine debris, cumulative and secondary impacts, special area management planning, ocean and Great Lakes resources, energy and government facility siting, and aquaculture, with coastal hazards designated as an enhancement area of national importance. This document includes an assessment of each of the nine enhancement areas as they apply to Connecticut and identifies the relative importance of each area in consideration of the state's approved coastal management program, existing conditions, and anticipated program changes and implementation activities eligible for funding under section 309.

The Connecticut Coastal Management Act (CMA), effectuated in 1980, is the centerpiece of the State's comprehensive coastal resource management program, building upon existing authorities as well as providing additional ones. Responsibility for implementing the CMA is shared by state and municipal levels of government. In addition to providing the basic structures for Connecticut's coastal management program, the CMA delineates a coastal management boundary, contains statutory policies, standards and procedures which implement the program, and defines management responsibilities for agencies at all affected levels of government. Most significantly, the CMA established over 50 specific policies and standards regarding the state's coastal resources and uses, to be applied to all development by each level of government with cognizance over such activities within the coastal area.

The Department of Energy and Environmental Protection's Office of Long Island Sound Programs (OLISP) is the organization directly responsible for implementation and enforcement of Connecticut's coastal management program. OLISP regulates all work in tidal wetlands and in tidal, coastal and navigable waters, and monitors and/or certifies for consistency purposes, as appropriate, all state and federal actions subject to our approved coastal management program. In addition, OLISP oversees and assures compliance of municipal implementation of CMA-mandated coastal site plan review requirements for all activities subject to local planning and zoning regulations.

Over the past thirty-five years of implementation of the state's coastal program, Connecticut has successfully preserved, protected and in fact restored critical coastal resources and has promoted water-dependent waterfront development, including significant public access to coastal waters. We have continually refined our organizational structure, our legal and programmatic guidance, and strengthened our network of related programs to enhance our capabilities of achieving our most basic dual purposes - resource protection and promotion of water-dependent uses. Perhaps most importantly, through the day to day implementation of our core program we have institutionalized the basic premises of the federal CZMA and state CMA.

This Assessment and Strategy continues to reflect the status of Connecticut's Coastal Management Program as an established, mature institution. The planning and regulatory statutes, programs, and policies needed to address the State's most salient coastal management problems already exist and are being successfully maintained. With the exception of additional attention to issues associated with coastal hazards and marine spatial planning, there is no recognized need for any major new initiatives that would constitute an eligible program change under section 309. Accordingly, our assessment identifies our need to refine existing programs to help better achieve coastal management objectives, and lay the groundwork for future initiatives through data collection, analysis, and dissemination.

Therefore, as in our 1992, 1996, 2001, 2006, and 2010 assessments, we have identified no major gaps in our programs to address the enhancement areas. We have, however, identified several issues where, were funding available, we could add to and improve our approach to those enhancement areas. The categories of coastal hazards and Ocean and Great Lakes resources address a number of significant issues, and have been designated as Connecticut's high priority enhancement areas. Highlighting the national priority of the coastal hazards enhancement area, Connecticut's shoreline was struck by Storms Irene and Sandy in consecutive years since the 2010 Assessment, These disasters reminded the state of the vulnerability of its coastal development and prompted several legislative and programmatic responses. Pressures for regulatory streamlining for shoreline protection, the recognition of threats posed by ongoing sea level rise in Long Island Sound, and growing interest in new approaches such as living shorelines all provide opportunities for further refinement of Connecticut's coastal management program and potential new 309 program changes. In addition, ocean issues remain a high priority in Connecticut, as OLISP staff has participated in national and regional ocean initiatives such as the Northeast Regional Ocean Council (NROC) and the Northeast Regional Planning Body under the National Ocean Policy. These developments, along with marine spatial planning efforts undertaken by neighboring states have brought forward the concept of coastal and marine spatial planning to better manage use and resource conflicts in offshore waters. We believe that Long Island Sound, which is currently at the margins of regional planning efforts, could greatly benefit from a focused marine spatial planning program so that Connecticut's coastal resources and uses can be preserved and balanced on a spatial level with potential new uses and challenges. Thus, the enhancement areas identified as of highest priority are those that include the greatest number of potential program and related changes requiring the greatest additional staff and financial resources to accomplish.

The five enhancement areas of medium priority are wetlands, public access, cumulative and secondary impacts, energy and government facilities, and aquaculture. While public access remains a vital issue, new programmatic initiatives under section 309 are unlikely to fill major programmatic gaps. At this point, our primary public access need is for significant additional funding to acquire and manage access sites. Cumulative and secondary impacts will pose a continuing challenge, particularly in a heavily-developed coastal area like Connecticut's, but existing and ongoing programs already address important cumulative effects such as nutrient enrichment, stormwater runoff and nonpoint source pollution. Energy and government facility siting, while potentially of great importance, has been designated a medium priority only in contrast to the previous assessment, in which several large-scale, high profile energy infrastructure projects were addressed. At this time, there are no pending or anticipated challenges on the order of the Broadwater LNG facility or the Islander East gas pipeline. Aquaculture is an important industry in Connecticut, and faces a number of emerging management issues as the industry expands.

Statutory changes have underlined the need to develop new administrative mechanisms to coordinate coastal management concerns with other federal and state agency processes.

Our remaining low priority enhancement areas are marine debris and special area management plans (SAMPs). Except for particular instances of derelict vessels, marine debris has not been a significant issue in Connecticut. In the SAMP area, experience with the "formal" Connecticut River SAMP has led to the emergence of a variety of "informal" SAMPs in response to resource coordination and management issues in particular areas.

II. SUMMARY OF PAST 309 EFFORTS

The following list contains 309 projects undertaken since the 2010 Assessment. Additional information on efforts in the high and medium priority categories is presented in the Phase I Enhancement Area Analysis (Section III) for the respective category.

Wetlands

- Medium priority in last Assessment; no 309 projects undertaken

Coastal Hazards (High priority)

- Coastal Storm Event Response
- Shoreline Change Guidance

Public Access

- Medium priority in last Assessment; no 309 projects undertaken.

Marine Debris

- Low Priority in last Assessment

Cumulative and Secondary Impacts (High priority)

- Dredged Material Management Guidance
- Shoreline Change Guidance
- Regional Coastal and Marine Spatial Planning

Special Area Management Planning

- Low Priority in last Assessment.

Ocean Resources (High priority)

- Regional Coastal and Marine Spatial Planning

Energy & Government Facility Siting

- Medium Priority
- Regional Coastal and Marine Spatial Planning

Aquaculture

- Medium priority in last Assessment; no 309 projects undertaken

III. PHASE I ENHANCEMENT AREA ANALYSIS

Wetlands

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

PHASE I (HIGH-LEVEL) ASSESSMENT

Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

Coastal Wetlands Status and Trends		
Current state of wetlands in 2011 (acres)	140,994.4 (7.6% of state)	
Percent net change in total wetlands (% gained or lost)	from 1996-2011 -739.9 (-0.52%)	from 2006-2011 -366.1 (-0.26%)
Percent net change in freshwater (palustrine wetlands) (% gained or lost)	from 1996-2011 -696.1 (-0.49%)	from 2006-2011 -352.9 (-0.25%)
Percent net change in saltwater (estuarine) wetlands (% gained or lost)	from 1996-2011 -68.9 (-0.05%)	from 2006-2011 -51.4 (-0.04%)

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	-895.1	-348.9
Agriculture	-60.7	-5.8
Barren Land	-37.4	-22.2
Water	182.8	10.9

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

According to the SLAMM (Sea Level Affecting Marshes Model), by 2100 there will be a significant change in overall tidal wetland function and distribution. Specifically, low marsh areas will convert to unvegetated intertidal flats, and high marsh areas will convert to low marsh. High marshes will also migrate landward into flat, low-lying areas, converting coastal forests, coastal grasslands, lawns, fields, and similar areas to high marsh. The overall change in total tidal wetland area, however, is insignificant.

Management Characterization:

1. Indicate if there have been any significant changes at the state 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	Y
Wetlands programs (e.g., regulatory, mitigation, restoration, acquisition)	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;
 - 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.

Statutory changes affecting Connecticut’s coastal regulatory programs, including tidal wetlands permitting, are described in the Coastal Hazards section of this Assessment.

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 the protection of tidal wetlands remains a focus of Connecticut’s coastal management program, we are not yet in position to pursue a 309 strategy likely to result in a program change. Research on upland migration of tidal wetlands as a result of sea level rise (the SLAMM project referenced in the Coastal Hazards Assessment) is still ongoing, and further review and analysis of wetland management options may well result in proposed strategies in the future. One example may be a possible change in statutory policy to allow or encourage the use of fill or dredged material to maintain, restore, or expand tidal wetlands under threat of erosion from sea level rise.

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. §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; land subsidence; and saltwater intrusion.

PHASE I (HIGH-LEVEL) ASSESSMENT

Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. **Flooding:** Using data from NOAA’s *State of the Coast* “Coastal Vulnerability Index,” indicate how many people were located within the state’s coastal floodplain as of 2010 and how that has changed since 2000.

Population in the Coastal Floodplain			
	2000	2010	Percent Change from 2000-2010
Number of people in coastal floodplain	215,405	237,024	+10%
Number of people in coastal counties	2,120,734	2,219,037	+4.6%
Percentage of people in coastal counties in coastal floodplain	10.2%	10.7%	+5.2%

2. **Shoreline Erosion:** Using data from NOAA’s *State of the Coast* “Coastal Vulnerability Index,” indicate the vulnerability of the state’s shoreline to erosion.

Vulnerability to Shoreline Erosion		
Vulnerability Ranking	Miles of Shoreline Vulnerable	Percent of Coastline
Very low accretion (>2.0m/yr)	11	6
Low accretion (1.0-2.0 m/yr)	1	2
Moderate/stable (-1.0 to 1.0 m/yr)	126	69
High erosion (-1.1 to -2.0 m/yr)	15	8
Very high erosion (<-2.0 m/yr)	28	15

3. **Sea Level Rise:** Using data from NOAA’s *State of the Coast* “Coastal Vulnerability Index,” 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.

Coastal Vulnerability to Historic Sea Level Rise		
Vulnerability Ranking	Miles of Shoreline Vulnerable	Percent of Coastline
Very low		
Low	181	100
Moderate		
High		
Very high		

4. **Other Coastal Hazards:** Indicate the general level of risk in the coastal zone for each of the coastal hazards.

Type of Hazard	General Level of Risk¹ (H, M, L)
Flooding (riverine, stormwater)	M-H
Coastal storms (including storm surge)	M
Geological hazards (e.g., tsunamis, earthquakes)	M
Shoreline erosion	M
Sea level rise	M-H
Land subsidence	L-M
Saltwater intrusion	Unknown
Other (please specify)	

¹ Risk is defined as “the estimated impact that a hazard would have on people, service, 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

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.

Connecticut's current Natural Hazard Mitigation Plan (NHMP) was adopted in 2014 to meet Federal Emergency Management Agency (FEMA) guidelines set forth in the Disaster Mitigation Act of 2000.

http://www.ct.gov/deep/lib/deep/water_inland/hazard_mitigation/ct_nhmp_adopted_final.pdf

Since 2010, Connecticut has experienced six major disaster declarations, while during the decade prior, the state had only experienced two major disaster declarations.

Note that Connecticut is comprised of 169 towns (plus two tribal governments and political subdivisions in Groton and Stonington) of which 156 towns have developed final hazard mitigation plans. The variability in the ranking systems established in the NHMP made it challenging to directly compare local hazard rankings to the state risk assessment. In cases where only specific communities are at risk - for example, sea level rise was evaluated in only 43 coastal communities, the ranking was only based on the scores in those communities.

In addition, OLISP developed a Coastal Hazards Mapping Tool, largely through the work of a NOAA Coastal Management Fellow, that includes sea level rise scenarios, hurricane surge inundation data, and erosion susceptibility data, among other features:

http://www.ct.gov/deep/cwp/view.asp?a=2705&q=480782&deepNav_GID=2022

As required by [Public Act No. 08-98 - An Act Concerning Connecticut Global Warming Solutions](#), the Adaptation Subcommittee of the Governor's Steering Committee on Climate Change developed and issued a draft Connecticut Climate Preparedness Plan in early 2011. The subcommittee was established to "evaluate the projected impacts of climate change on Connecticut agriculture, infrastructure, natural resources and public health," and to develop strategies to lessen those impacts. The subcommittee outlined a menu of initial strategies that could help address the potential effects of climate change described in their earlier 2010 report entitled: *Impacts of Climate on Connecticut Agriculture, Infrastructure, Natural Resources and Public Health*. The strategies outlined in the Climate Preparedness Plan center around five basic themes:

- Intensify efforts to ensure preparedness planning;
- Integrate climate change adaptation into existing plans;
- Update existing standards to accommodate change expected during infrastructure design life;
- Plan for flexibility and monitor change; and Protect natural areas and landscape features that buffer potential impacts from climate change.

<http://www.ct.gov/deep/lib/deep/climatechange/impactsofclimatechange.pdf>

http://www.ct.gov/deep/lib/deep/climatechange/connecticut_climate_preparedness_plan_2011.pdf

In January 2015, the US Army Corps of Engineers issued the North Atlantic Comprehensive Coastal Study. The goals of the NACCS are to provide a risk management framework, consistent with NOAA/USACE Infrastructure Systems Rebuilding Principles; and support resilient coastal communities and robust, sustainable coastal landscape systems, considering future sea level and climate change scenarios, to reduce risk to vulnerable populations, property, ecosystems, and infrastructure. Results for Connecticut, included in Appendix D4, are still being evaluated.

http://www.nad.usace.army.mil/Portals/40/docs/NACCS/NACCS_Appendix_D.pdf

Management Characterization:

1. Indicate if the approach is employed by the state and if significant state-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 (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:			
elimination of development/redevelopment in high-hazard areas	N	N/A	N
management of development/redevelopment in other hazard areas	Y	Y	Y
climate change impacts, including sea level rise	Y	Y	Y
Hazards planning programs or initiatives that address:			
hazard mitigation	Y	Y	Y
climate change impacts, including sea level rise	Y	Y	Y
Hazards mapping or modeling programs or initiatives for:			
sea level rise	Y	Y	N
other hazards	N/A	N/A	N/A

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

“Coastal hazard areas” are defined by the CT Coastal Management Act as “those land areas inundated during coastal storm events or subject to erosion induced by such events, including flood hazard areas as defined and determined by the National Flood Insurance Act, as amended (USC 42 Section 4101, P.L. 93-234) and all erosion hazard areas as determined by the commissioner.” CGS §22a-93(7)(H).

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.

Management of development/redevelopment in other hazard areas

Coastal Management Act policies and coastal regulatory procedures were amended by statute in 2012² and 2013³. These provisions expanded the types of development eligible for protection by hardened shorelines, and streamlined approval for rebuilding damaged structures. In addition, the concepts of living shorelines and compensatory mitigation for shoreline armoring were introduced, and authorizations for living shoreline projects were streamlined at state and local levels. Also, the legislation established the basis for the Connecticut Institute for Resilience and Climate Adaptation (CIRCA; <http://circa.uconn.edu/>), which is housed at UConn and is expected to provide a scientific basis for resilient coastal development/redevelopment management. The statutory changes were not related to a 309 project, but the beneficial aspects of PA 12-101 (e.g., living shorelines, recognition of climate change) were driven in part by OLISP input. Further, the concept of compensatory mitigation for shoreline armoring became the subject of a NOAA Coastal Management Fellowship.

We expect continued pressure for shoreline armoring from coastal landowners, commensurate with expanded statutory eligibility. However, further research and development of living shorelines and compensatory mitigation concepts through the Fellowship and collaboration with CIRCA may help alleviate this pressure by providing environmentally preferable alternatives.

After Storms Irene and Sandy, OLISP issued temporary and emergency authorizations to facilitate rebuilding, as part of the development and implementation of an Emergency Response Plan. Draft post-storm general permits were also prepared. These post-storm regulatory mechanisms developed and employed by OLISP grew out of the Coastal

2 PA 12-101, <http://www.cga.ct.gov/2012/ACT/PA/2012PA-00101-R00SB-00376-PA.htm>

3 PA 13-179, <http://www.cga.ct.gov/2013/ACT/PA/2013PA-00179-R00SB-01012-PA.htm>

Hazards—Coastal Storm Event Response 309 Project. Based on this experience, OLISP should be well positioned to respond promptly and efficiently to the next coastal storm

Climate change impacts, including sea level rise

The Coastal Management Act amendments of 2012 and 2013 also provided that certain state- and municipal-level planning documents should take into account climate change and sea level rise scenarios. These were not 309-related changes. CIRCA and the UConn have been given specific roles in promoting adaptation and resiliency planning.

Especially as CIRCA ramps up, we expect increasing attention to adaptation and resiliency planning efforts, including workshops and the development and dissemination of best practices. As with OLISP’s regulatory program, emergency response at the state and local level will continue to improve. While it is unclear to what extent land use and development practices on the ground will be affected by resiliency planning, we anticipate some policy changes and implementation at the municipal level; retreat is not considered a viable option.

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.

This enhancement area remains a high priority as Connecticut continues to rebuild and redevelop its coast. There is continuing pressure to develop individual waterfront sites, including in high hazard areas. On the other hand, NGO partners and certain consultants within the regulated community have shown consistent interest in living shorelines options to protect coastal resources and uses. In cooperation with Sea Grant and CIRCA, OLISP needs additional capacity to focus research and outreach on such non-structural approaches. In particular, we are often asked for more specific regulatory definitions, design handbooks, site assessment checklists, and other tools for employing living shorelines and green infrastructure methods.

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)

PHASE I (HIGH-LEVEL) ASSESSMENT

Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. 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	Cite data source
Beach access sites	80	Unknown. Number of “beach access” sites was not reported in previous Assessment. If it were, a similar # of sites would have been reported. No new beach access sites acquired since 2010.	Coastal Access Guide dbase: ‘Significant’ sandy beach ‘On Guide’* *‘On Guide’= listed on CT Coastal Access Guide
Shoreline (other than beach) access sites	248	Lack of similar reporting requirement in previous Assessment precludes change/trend analysis. However, because there were no new substantial additions of public beach since 2010, comparing change in <u>total</u> # of coastal access sites 2010 (323 sites) → to 2015 (328 sites) indicates no significant change in total # of access sites.	Coastal Access Guide dbase: ‘On Guide’ less significant beach access sites
Recreational boat (power or non-motorized) access sites	99	No change	Coastal Access Guide dbase: On Guide (car-top +ramp)

Number of designated scenic vistas or overlook points	Unknown	Unknown	
Number of fishing access points (i.e., piers, jetties)	171	No change	Coastal Access dbase: Fishing + On-Guide (not limited to sites with piers/etc.)
Coastal trails/boardwalks	No. of Trails/board walks: 67/137* *includes improved walkways	Data not reported in 2010. No significant change occurred	Coastal Access dbase: trails/walkways On-Guide. 'Walkways include boardwalks and other improved paths
	Miles of Trails/board walks Unknown		
Number of acres parkland/open space	Total sites 148	# acres unknown	CT Coastal Access Guide dbase: Principle use sites= parks + wildlife areas, natural areas 'On-Guide'
	Sites per miles of shoreline .94		

2. 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.

The population within Connecticut's coastal counties is projected to increase by five percent between 2010 and 2020. However, statewide population change alone is not a reliable indicator of change in demand for coastal access. Other factors affecting demand for shoreline recreation opportunities include the proximity of non-coastal county population centers to Connecticut's shore, the capacity of transportation networks connecting the inland population centers to the shoreline, and changing demographics. For

example, previous Connecticut coastal access surveys indicate that a significant proportion of anglers, boaters and bird-watchers recreating along Connecticut's coast travel from inland counties. Changing demographics, such as an aging Connecticut population, and resultant changes in the types of preferred recreational activities and the facilities needed to support them, will also likely affect the amount and type of new coastal access facilities needed in Connecticut. For example, between 2015 and 2060, the U.S. Census Bureau predicts that population growth in those over age 65 will increase by 93% compared to only a 20% increase for those between 5 and 64 years old and that this growing older population cohort's percentage of Connecticut's total population will increase from 15% to 22%.

The last comprehensive assessment of demand for coastal access to support shoreline recreation activities was done in 2009 as part of Connecticut's 2010-2015 SCORP. No comprehensive or in-depth assessment of demand for coastal shoreline recreational was conducted as part of Connecticut's current 2011-2016 SCORP. A limited demand assessment update of outdoor recreation opportunities in Connecticut was completed as part of Connecticut's most recent SCORP update. This assessment was limited to three open-ended type questions including the question: What types of activities, facilities or opportunities would you like to see better represented in Connecticut? Coastal recreation activities were not among the top three most frequently cited activities that accounted for 60 percent of total responses. Expanded opportunities for kayaking/canoeing (no distinction between saltwater and freshwater) was the fifth most frequently cited outdoor recreation need, representing about five percent of total responses. Connecticut informally assesses demand for coastal public access opportunities through comments/questions received through the CT Coastal Access Guide's [contact us](#) web page. The single most frequent inquiry through this medium was to clarify the location and availability of sites for launching non-motorized boats (canoes and kayaks).

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 2012, the Northeast Regional Planning Body (RPB) worked with several partners (including SeaPlan and representatives of boating trade associations) on a project to characterize recreational boating in New England. The study confirmed assumptions that most recreational boating occurs close to shore and along key transit routes. It resulted in maps showing the relative level of boating activity throughout the region that can be accessed here: <http://www.northeastoceandata.org/maps/recreation/>

In winter 2015, the RPB launched a related investigation to characterize other marine recreational activities in the Northeast, gathering data about where, when, and how people recreate along the coast. Along with input from industry experts (operators and event organizers), stakeholder groups, such as kayak and diving clubs, are being consulted to assess where and how they are practicing their sports. The results of this investigation are expected to be released later this year.

Management Characterization:

1. Indicate if the approach is employed by the state and if there have been any significant state-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 (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	N
Operation/maintenance of existing facilities	Y-State Parks	N	N ⁴
Acquisition/enhancement programs	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:
 - 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.

There are no significant changes.

3. Indicate if your state 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 has? (Y or N)	Y	Y	N
Web address (if applicable)	N/A	http://www.lisrc.uconn.edu/coastal-access/	N/A
Date of last update	2001	2014	N/A
Frequency of update	None	3-4 times/year	N/A

⁴ Per 1/15/15 e-mail inquiry from John Cimochoowski (Asst. Director, CT DEEP State Parks Division) number of coastal state parks maintenance staff FTE has not changed

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.

Connecticut has a ‘mature’ coastline in the sense that much of its shoreline was developed prior to program adoption and many of the gains in coastal public access occurred through the first 30 years of program implementation. The past 5 years have seen relatively little new shoreline development or redevelopment that has created most of Connecticut’s new coastal public access sites through the municipal coastal site plan review process. Until there is major redevelopment proposed for waterfront sites not currently providing public access, few new sites are expected to be gained. Recent surges in shoreline property values for portions of Connecticut’s shore⁵ will continue to make it difficult to purchase waterfront sites suitable for accommodating public recreational use.

⁵ See <http://www.virtual-strategy.com/2015/01/13/long-island-sound-front-sales-see-significant-increase-2013-2014-according-new-william-pi#axzz3OozXGGHN>

Marine Debris

Section 309 Enhancement Objective: Reducing marine debris entering the nation’s coastal and ocean environment by managing uses and activities that contribute to the entry of such debris. §309(a)(4)

PHASE I (HIGH-LEVEL) ASSESSMENT

Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. In the table below, characterize the existing status and trends of marine debris in the state’s coastal zone based on the best available data.

Source of Marine Debris	Existing Status and Trends of Marine Debris in Coastal Zone		
	Significance of Source (H, M, L, unknown)	Type of Impact (aesthetic, resource damage, user conflicts, other)	Change Since Last Assessment
Land-based			
Beach/shore litter	L	aesthetic	-
Dumping	L	aesthetic	-
Storm drains and runoff	L	aesthetic	-
Fishing (e.g., fishing line, gear)	L	aesthetic, resource damage	-
Other (please specify)	L	aesthetic	-
Ocean-based			
Fishing (e.g., derelict fishing gear)	L	resource damage	-
Derelict vessels	L	aesthetic	-
Vessel-based (e.g., cruise ship, cargo ship, general vessel)	L	aesthetic	-
Hurricane/Storm	L	aesthetic, resource damage	↑

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

In our 2010 assessment, OLISP stated that marine debris was not a significant issue in our estuary and this is still the case. Litter control, recycling, and beverage bottle return programs and policies are developed and implemented by the Bureau of Materials Management and Compliance Assurance/Engineering and Enforcement Division/Source Reduction and Recycling Program of this Department, and there have been periodic legislative efforts to expand and update recycling statutes. This effort was successful in 2010 with the enactment of Public Act No. 10-87, which required DEEP to include containers of three gallons or less made of polyethylene terephthalate plastic and high-density polyethylene plastic as “designated” recyclables.

Also, in April of 2012, Governor Dannel P. Malloy appointed the members of a working group to analyze and make recommendations on how the state can modernize its approach to recycling, reduce waste through improved materials management and lower costs for municipalities, residents, and businesses. The working group was led by the Governor's Office in partnership with DEEP and other state agencies. A final report outlining their recommendations was completed on December 27, 2012.

http://www.ct.gov/deep/lib/deep/waste_management_and_disposal/solid_waste/transforming_matls_mgmt/gov_recycling_work_group/report_dec_27_2012.pdf

Lost fishing nets are not believed to be a significant issue in Connecticut coastal waters. However, the extent of impact from abandoned or lost lobster pots is unknown. Based on past experience with the fishery, the current Atlantic States Marine Fisheries Commission Lobster Management Plan allows for an annual loss of 10% of every license holder's gear. In 2003-2004 CT license holders reported fishing approximately 120,000 pots in the Sound. This would equate to 12,000 wire traps lost every year. Although some of this lost gear is eventually retrieved and reset, several thousand traps presumably remain lost on the bottom of the Sound. Each of these traps is required to have a biodegradable vent. State statute and regulations require that only licensed lobster fishers may handle lobster pots, so that any removal operation would have to be carried out by, or under the supervision of, these license holders barring a change in statute.

Derelict structures, derelict vessels and abandoned vessels may also contribute to the debris found in Long Island Sound. These structures include dilapidated docks, piers, floats, derelict vessels and abandoned vessels, but they are often overlooked unless they become the subject of local complaints. In 2014, Public Act No. 14-57 - An Act Concerning Abandoned Vessels was enacted and became effective on January 1, 2015. The act detailed a new process for claiming abandoned boats and provided additional guidance for local officials dealing with derelict and abandoned vessels.

http://www.ct.gov/deep/cwp/view.asp?a=2686&q=391624&deepNav_GID=1620

After Tropical Storm Irene in 2011 and Super Storm Sandy in 2012, OLISP had to coordinate with DEEP’s solid waste section, various municipalities, emergency response managers, harbor masters, other state agencies and federal agencies on the characterization, removal/disposal and permitting of disaster generated debris at numerous locations along the Connecticut coastline. This coordination began immediately after both storm events during recovery efforts and continues presently with on-going debris management and planning efforts and derelict vessel permitting and removal. For example, DEEP received a NOAA grant to conduct marine debris assessment, removal and disposal activities in response to Storm Sandy. OLISP coordinated with DEEP Boating Division and issued a Certificate of Permission on October 14, 2014, authorizing the removal of debris from 8 tidal marsh sites through September 30, 2015.

Management Characterization:

1. Indicate if the approach is employed by the state and if there have been any significant state-level management changes (positive or negative) for how marine debris is managed in the coastal zone.

Management Category	Employed by State (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	N	N	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:
 - a. Describe the significance of the changes;
 - b. Specify if they were 309 or other CZM-driven changes; and
 - c. Characterize the outcomes and likely future outcomes of the changes.

Connecticut continues to implement and administer programs in effect since our 2010 assessment, none of which was driven by Section 309 efforts. Connecticut citizens participate in annual International Coastal Cleanup (ICC) efforts; existing CSO abatement programs continue to be implemented, as do strong state and local recycling and anti-littering programs and ordinances; the marine debris abatement practices identified in the DEEP’s marina best management practices manual continue to be incorporated as warranted into municipal harbor management plans and as conditions of state authorizations for marina facilities; and stormwater general permits for marina facilities continue to be administered.

In addition to these on-going efforts, the Clean Marina and Clean Boater Programs identified in the 2010 assessment continue to be implemented. These programs have developed into effective education and outreach campaigns designed to educate marina operators and boaters about the environmental impacts of marina and boat operations, and to provide practical solutions, including strategies to reduce marine debris. The Clean Marina Program instructs boating facilities operators to better manage their solid waste as well as their stormwater runoff from hull maintenance areas. As part of these programs, OLISP and the DEEP Boating Division have developed guidance documents that address waste containment and disposal at boating facilities and on boats. The documents include best management practices for the reduction, containment, and disposal of solid waste, including fish waste and hazardous waste. Strategies for managing solid waste have been discussed during workshops for boating facility operators. In addition, an outreach campaign directly targeting recreational boaters has encouraged them to properly dispose of their trash, recyclables, and fish waste. The portion of the Clean Marina Guidebook dealing specifically with marine debris can be found at:

http://www.ct.gov/deep/lib/deep/long_island_sound/clean_marina/clean_marina_pdfs/facility_management_pdfs/litter_and_recycling_08.pdf. The Clean Boater Program information can be found at:

http://www.ct.gov/dep/cwp/view.asp?a=2705&q=323526&depNav_GID=1620.

After three storms (Alfred, Irene and Sandy) in roughly a year's time, severely impacted Connecticut, including shoreline areas, the State closely examined its storm preparedness and post-storm recovery strategies and procedures. While not a Section 309 task, DEEP developed new disaster debris plans, policies and resources for government and citizens, including a new web page

http://www.ct.gov/deep/cwp/view.asp?a=2718&Q=410492&deepNav_GID=1646 and revised (June 2013) State of Connecticut Disaster Debris Management Plan

http://www.ct.gov/deep/lib/deep/waste_management_and_disposal/debris_management/disasterdebrismanagementplan.pdf. Post-storm removal of marine debris is a component of the larger debris management plan, and this multi-agency effort will make the state better prepared to address storm debris.

Connecticut's coastal management program does not conduct or monitor beach clean-ups. The private groups that conduct annual beach cleanup events continue to remove significant volumes of debris and floatable litter. The beach cleanup data is collected to develop a trend analysis that will measure the success of programs to reduce the introduction of floatables and other marine debris into Long Island Sound. The data on the number of participants in beach cleanup efforts is also used as one measure of public participation in protecting and restoring Long Island Sound. This information is published in the "Sound Health" reports of the Long Island Sound Study http://longislandsoundstudy.net/wp-content/uploads/2012/11/Sound_Health_2012_Report.pdf. Save The Sound, an environmental advocacy group, which is now affiliated with the Connecticut Fund for the Environment, administers the annual International Coastal Cleanup (ICC) program in Connecticut. <http://www.ctenvironment.org/#!coastal-cleanup/c14zw>

Enhancement Area Prioritization:

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

High _____
Medium _____
Low X

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

While marine debris continues to be of concern, it is not an area requiring enhancements and therefore ranks as a low priority. Connecticut successfully implements several management tools through existing programs, in spite of the fact that marine debris is a relatively minor pollution problem in the state. For example, an outreach component regarding marine debris has been incorporated into the Clean Marina Program and Clean Boater Program developed to address coastal water quality issues. In addition, marine debris issues resulting from storms are addressed under the Coastal Hazards enhancement area. A distinct gap does exist in our knowledge of the extent and significance of derelict structures, vessels and lost or abandoned lobster pots in Connecticut coastal waters. While Marine Debris as a category continues to be a low priority with respect to section 309 enhancement needs, the planning for derelict vessel, debris, and ghost lobster pot removal is an area of management interest, and OLISP will continue to evaluate whether survey and removal projects may now be funded through NOAA's Community-based Marine Debris Prevention and Removal Project Grants or other sources.

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)

PHASE I (HIGH-LEVEL) ASSESSMENT

Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

- Using National Ocean Economics Program Data on population and housing, please indicate the change in population and housing units in the state's coastal counties between 2012 and 2007 to approximate current assessment period.

Trends in Coastal Population and Housing Units (Coastal Zone Counties)				
Year	Population		Housing	
	Total (# of people)	% Change (compared to 2002)	Total (# of housing units)	% Change (compared to 2002)
2007	2,172,035	2.96%	888,545	3.46%
2012	2,236,420		919,254	

- Using provided reports from NOAA's Land Cover Atlas, please indicate the status and trends for various land uses in the state's coastal counties between 2006 and 2011.

Distribution of Land Cover Types in Coastal Counties FAIRFIELD		
Land Cover Type	Land Area Coverage in 2010 (Acres)	Net Gain/Loss Since 2006 (Acres)
Developed, High Intensity	68.02	3.13; 4.83%
Developed, Low Intensity	73.98	3.84; 5.48%
Developed, Open Space	82.44	1.84; 2.28%
Grassland	2.95	0.12; 4.10%

Scrub/Shrub	9.96	-0.37; -3.59%
Barren	2.09	0.23; 12.11%
Open	210.46	-0.15; -0.07%
Agriculture	21.75	-1.33; -5.75%
Forested	321.06	-6.91; -2.11%
Woody Wetland	37.84	-0.31; -0.81%
Emergent Wetland	6.39	-0.10; -1.47%

Distribution of Land Cover Types in Coastal Counties NEW HAVEN

Land Cover Type	Land Area Coverage in 2010 (Acres)	Net Gain/Loss Since 2006 (Acres)
Developed, High Intensity	78.05	4.98; 6.81%
Developed, Low Intensity	77.20	4.74; 6.54%
Developed, Open Space	66.65	3.87; 6.17%
Grassland	7.27	-1.36; -15.77%
Scrub/Shrub	11.11	0.30; 2.79%
Barren	3.62	0.29; 8.56%
Open	256.75	-0.33; -0.13%
Agriculture	26.79	-1.76; -6.15%
Forested	291.51	-10.60; -3.51%
Woody Wetland	32.68	-0.36; -1.08%
Emergent Wetland	10.38	0.24; 2.33%

Distribution of Land Cover Types in Coastal Counties MIDDLESEX

Land Cover Type	Land Area Coverage in 2010 (Acres)	Gain/Loss Since 2006 (Acres)
Developed, High Intensity	13.26	0.82; 6.61%
Developed, Low Intensity	21.16	0.69; 3.38%
Developed, Open Space	18.48	0.00; -0.01%
Grassland	1.97	0.06; 3.29%
Scrub/Shrub	9.10	0.47; 5.48%
Barren	1.97	0.15; 8.52%
Open	69.50	0.02; 0.04%
Agriculture	21.25	-0.25; -1.17%
Forested	244.96	-1.82; 0.74%
Woody Wetland	29.02	-0.14; -0.49%
Emergent Wetland	8.42	-0.02; -0.21%

Distribution of Land Cover Types in Coastal Counties NEW LONDON

Land Cover Type	Land Area Coverage in 2010 (Acres)	Gain/Loss Since 2006 (Acres)
Developed, High Intensity	29.07	0.97; 3.44%

Developed, Low Intensity	32.67	0.82; 2.59%
Developed, Open Space	25.20	0.02; 0.07%
Grassland	5.56	0.02; 0.45%
Scrub/Shrub	14.40	0.69; 5.00%
Barren	3.46	0.64; 22.86%
Open	105.16	0.02; 0.02%
Agriculture	61.77	-0.61; -0.98%
Forested	400.40	-2.33; -0.58%
Woody Wetland	80.80	-0.15; -0.18%
Emergent Wetland	13.15	-0.09; -0.69%

3. Using provided reports from NOAA's Land Cover Atlas, please indicate the status and trends for developed areas in the state's coastal counties between 2006 and 2011 in the two tables below.

Development Status and Trends for Coastal Counties FAIRFIELD			
	2006	2010	Percent Net Change
Percent land area developed	26.35	26.82	1.78
Percent impervious surface	8.67	8.89	2.60

Development Status and Trends for Coastal Counties NEW HAVEN			
	2006	2010	Percent Net Change
Percent land area developed	25.41	25.74	1.32
Percent impervious surface	9.04	9.24	2.25

Development Status and Trends for Coastal Counties MIDDLESEX			
	2006	2010	Percent Net Change
Percent land area developed	11.70	12.05	2.94
Percent impervious surface	3.58	3.75	4.81

Development Status and Trends for Coastal Counties NEW LONDON			
	2006	2010	Percent Net Change
Percent land area developed	11.03	11.27	2.13
Percent impervious surface	3.87	3.99	3.03

How Land Use Is Changing in Coastal Counties				
Land Cover Type	Areas Lost to Development Between 2006-2010 (Acres)			
	FAIRFIELD	NEW HAVEN	MIDDLESEX	NEW LONDON
Barren Land				
Emergent Wetland	-0.10		-0.02	-0.09
Woody Wetland	-0.31	-0.36	-0.14	-0.15
Open Water	-0.15	-0.33		
Agriculture	-1.33	-1.76	-0.25	-0.61

Scrub/Shrub	-0.37			
Grassland		-1.36		
Forested	-6.91	-10.60	-1.82	-2.33

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

Shoreline Types	
Surveyed Shoreline Type	Percent of Shoreline
Armored	18
Beaches	10
Flats	14
Rocky	6
Vegetated	52

- If available, briefly list and summarize the results of any additional state-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.

The University of Connecticut’s Center for Land Use Education and Research (CLEAR) has developed comprehensive statewide land cover data. While statewide information is available through 2010, town-by-town data is only currently available through 2006.

Management Characterization:

- Indicate if the approach is employed by the state 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.

Management Category	Employed by State (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	N
Guidance documents	Y	Y	N

Management plans (including SAMPs)	Y	Y	N
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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.

There are no significant changes.

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.

Cumulative and secondary impacts have been assigned a medium priority in light of the vast scope of programs already in effect to control these impacts associated with coastal development. Although development status and trends show a nominal percentage increase in overall development and the level of impervious cover since the previous 309 Assessment, the “effective” impervious cover associated with this increased development can be largely controlled through the implementation of the coastal nonpoint source pollution control program and Low Impact Development/Green Infrastructure practices incorporated into local and state development projects.

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, and improved predictability in governmental decision making.”

PHASE I (HIGH-LEVEL) ASSESSMENT

Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. In the table below, identify 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
Lower Connecticut River	invasive species especially common reed, <i>Phragmites australis</i> ; the invasive submerged aquatic plant water chestnut, <i>Trapa natans</i> ; impaired habitat; development pressure
Little Narragansett Bay, Stonington Harbor, Mystic Harbor, Poquonnock River, and Niantic River	degradation of eelgrass beds; impaired habitat; development pressure
CT Coastal Zone	the effects of climate change (e.g., sea-level rise, marsh migration, more frequent and extensive flooding) are expected to pose use conflicts in both the near and long term, impaired habitat, development pressure

Long Island Sound	See Ocean Resources section
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2. 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.

Due to the breadth and scope of existing OLISP efforts and programs, there is little need for formal SAMP structures in Connecticut’s coastal zone.

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 (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	N	N	N
SAMP plans	N	N	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:
 - 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.

There have been no significant management changes as the Connecticut Coastal Management program does not employ the SAMP strategy. Connecticut does not use SAMP policies or plans. While Long Island Sound itself could be considered a Special Area, issues related to offshore areas are described in the Ocean Resources enhancement area, and will be addressed through a Coastal and Marine Spatial Planning strategy approach.

Enhancement Area Prioritization:

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

High _____
 Medium _____
 Low X

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

Due to the breadth and scope of existing OLISP efforts and programs, there is little need for formal SAMP structures in Connecticut's coastal zone. Accordingly, this area was a low priority in the last assessment and remains a low priority for this assessment.

Ocean Resources

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

PHASE I (HIGH-LEVEL) ASSESSMENT

Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. Understanding the ocean economy can help improve management of the resources it depends on. Using Economics: National Ocean Watch (ENOW), indicate the status of the ocean economy as of 2011, as well as the change since 2005, in the tables below. Include graphs and figures, as appropriate, to help illustrate the information.

Status of Ocean Economy for Coastal Counties (2011)				
	Establishments (# of Establishments)	Employment (# of Jobs)	Wages (Millions of Dollars)	GDP (Millions of Dollars)
Living Resources	71	781	\$16,519	\$49,320
Marine Construction	41	399	\$15,372	\$28,478
Marine Transportation	144	4,476	\$341,675	\$701,862
Offshore Mineral Extraction	27	305	\$21,547	\$32,291
Tourism & Recreation	2,443	32,660	\$691,602	\$1,479,247
Ship & Boat Building	15	8,493	\$701,544	\$1,360,319
All Ocean Sectors	2,741	47,114	\$1,788,259	\$3,651,517

Change in Ocean and Great Lakes Economy for Coastal Counties (2005-2011)				
	Establishments (% change)	Employment (% change)	Wages (% change)	GDP (% change)
Living Resources	4.4%	8.9%	48.5%	40.8%
Marine Construction**	N/A	N/A	N/A	N/A
Marine Transportation	17.1%	-15.7%	12.8%	35.4%
Offshore Mineral Extraction**	N/A	N/A	N/A	N/A
Tourism & Recreation	13.5%	13.1%	22.3%	27.1%
Ship & Boat Building	-25.0%	-0.5%	20.1%	28.1%
All Ocean Sectors	13.0%	9.4%	18.6%	27.6%

** Data for 2005 has been suppressed

2. In the table below, characterize how the threats to and use conflicts over ocean resources in the state'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
Resource	
Benthic habitat (including coral reefs)	<p><u>Bottom Waters</u>: No change. The degree of threat to bottom waters remains high due to nitrogen loading. However, it is worth noting the CTDEEP water quality cruise data does allow us make some degree of quantitative measure of change between assessment time frames: average values for hypoxic areas and durations are lower since last assessment; in addition, the overall trend of reductions present during the previous assessment is ongoing during this timeframe. http://longislandsoundstudy.net/?indicator_categories=water-quality</p> <p><u>Submerged Aquatic Vegetation</u>: No change. The degree of threat to eelgrass remains high due to point and non-point nitrogen enrichment. While USGS Eelgrass surveys seem to indicate that the resource has more or less remained stable in terms of overall bed acreage from the last assessment, the rate of increase has abated, and it continues to remain absent in Western LIS. http://longislandsoundstudy.net/indicator/eelgrass-abundance/</p>

Living marine resources (fish, shellfish, marine mammals, birds, etc.)	<p>Coastal Birds: While not specifically addressed during the last assessment, threats to coastal shorebirds are high as human use and development pressure work to constrict and/or degrade their habitat. While observational data allows us to report that the average number of nesting pairs of piping plovers and least terns have increased since the last assessment, nesting pairs observed during this assessment period are showing a decreasing trend. http://longislandsoundstudy.net/?indicator_categories=coastal-birds)</p> <p>Fish: While not specifically addressed during the last assessment threats to finfish can be classified as moderate, primarily resulting from increased water temperatures and fishing effort. Observational data shows a decrease in the average counts of gamefish found in surveys when compared to last assessment although there is a slight uptick in the trend thus far in this period. Average measures of finfish biomass and species richness show slight increases over those from the last assessment although the trend is decreasing thus far in this period. http://longislandsoundstudy.net/?indicator_categories=fish-population-in-long-island-sound)</p> <p>Shellfish: While not specifically addressed during the last assessment, threats to shellfish are high as a result of water quality issues and fishing effort. Since the last assessment, more than 6,000 acres of approved growing areas were downgraded from 2010 to 2011. http://longislandsoundstudy.net/2010/06/approved-shellfish-acreage/)</p> <p>Lobsters: While not specifically addressed during the last assessment, threats to lobsters are high as a result of water quality issues, water temperatures, and fishing effort. Observational data indicates that the average amount of landings (in lbs) has greatly decreased from the last assessment although the trend is slightly increasing during this assessment (http://longislandsoundstudy.net/indicator/lobster-landings/)</p>
Sand/gravel	The threat to sand and gravel is medium . Potential adverse impacts on sand and gravel resources is mitigated by Section 22a-361(e)(1) of the Connecticut General Statutes which requires the payment of a fee for sand and gravel extraction. Demand for sand for beach nourishment, particularly following periods of damaging coastal storms, increases pressure for offshore sand extraction.
Cultural/historic	No change
Other (please specify)	N/A
Use	
Transportation/navigation	The threat posed by transportation/navigation is medium . LIS has heavily trafficked commercial shipping lanes and threats from accidents, particularly fuel/chemical spills, cannot be ignored. Issues relating to potential loss/decrease in access to marina facilities in the absence of a dredged material management plan remain unchanged.

Offshore development	The threat posed by use conflicts resulting from offshore development (particularly cables and pipelines) remains high . Although no significant proposals for in-water development have been received by OLISP since the last assessment, interest from the energy sector to deliver products to Long Island remains present and future offshore wind projects in neighboring states may result in proposals for transmission cables through LIS.
Energy production	No change, although there is periodic interest in wind and tidal energy facilities in LIS
Fishing (commercial and recreational)	No change
Recreation/tourism	Lack of funding for new recreational and tourism facilities remains an issue, as well as impediments to public access from private development as discussed in the public access section.
Sand/gravel extraction	N/A
Dredge disposal	The threat posed by conflicts over dredged disposal remains high , especially due to the potential closure of LIS open water disposal sites and uncertainty in the designation of an alternative.
Aquaculture	CT's aquaculture industry is slowly diversifying and growing, although there are ongoing issues with regulatory approaches as discussed in the aquaculture section. The emerging seaweed aquaculture industry may increase potential conflict with shellfish aquaculture and boating. Conflicts between boat mooring fields and leased shellfish beds have been increasing.
Other (please specify)	N/A

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

As no resource or use received an increased threat value since last assessment, we did not complete the following table. Rather, we have indicated in the previous table what the drivers to the resource/use threat are or continue to be.

Major Contributors to an Increase in Threat or Use Conflict to Ocean Resources														
Resource	Major Reasons Contributing to Increased Resource Threat or Use Conflict (Note All that Apply with "X")													
	Land-based	Offshore	Polluted	Invasive	Fishing (Comm & Rec)	Aquaculture	Recreation	Marine	Transp	Dredging	Sand/Minera	Ocean	Acidifi	Other (Specif
[Resource or Use from Table														

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

A pilot Benthic Mapping study on a section of Long Island Sound (~460 sq km corridor from Bridgeport, CT to Port Jefferson, NY including the Stratford Shoal formation) provided insights regarding benthic habitats, living resources, geology, and physical oceanographic characteristics; more specifically including:

- Detailed grain size distribution patterns;
- Carbon, nitrogen, and metals concentrations in surface sediments;
- Variations of the sedimentary environments (Depositional, Non-Depositional/Erosional, Dynamic.) Further, based on the sediment cores and subbottom data we distinguish High, Moderate/High, Moderate, and Low/Moderate, Low energy regimes and thickness of strata;
- Subbottom data distinguish natural and manmade features, such as pipeline trenches;
- Analyses of infaunal biota indicate that benthic communities and their characteristics can be closely related to the acoustic patch types (areas of the seafloor defined by common acoustic signatures).
- Analyses of emergent and epifaunal biota show variation associated with depth, grain size and season;
- Distributions of physical characteristics including temperature, salinity, and bottom stresses.

The EPA Long Island Sound Study provides a compendium of various environmental indicators (water quality, marine and coastal animals, climate change, land use and population, and habitats) some of which were used to address part of this assessment. Future assessments can leverage the historic data to quantitatively address changes to threats. (<http://longislandsoundstudy.net/research-monitoring/long-island-sound-environmental-indicators/>)

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	Y	Y	Y
Regional comprehensive	In process	N/A	Y

ocean management plans			
State comprehensive ocean management plans	N	N	N
Single-sector management plans	Y	N	DMMP in process

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.

Changes in statutes affecting the coastal regulatory programs, specifically PA 12-101 and PA 13-179, are discussed in the Coastal Hazards section.

OLISP has continued its ongoing participation in regional ocean planning through the Northeast Regional Planning Body, <http://neooceanplanning.org/>. The NE RPB is close to finalizing its Regional Ocean Plan, anticipated in early 2016.

OLISP’s Regional Coastal and Marine Spatial Planning 309 Strategy did result in considerable progress in laying the groundwork for a spatial planning initiative in Long Island Sound. OLISP is a key participant in the Bi-State Marine Spatial Planning Working Group, an unofficial collaboration among several partners in the CT/NY region (NY DEC, NY DOS, CT and NY Sea Grant offices, the Nature Conservancy, etc.) Working collaboratively with this group, OLISP was able to develop two key elements representing significant changes with respect to Coastal and Marine Spatial Planning. A Framework document synthesizing management needs and recommendations was drafted as well as a Data and Information Plan. The latter includes the identification, assessment, and suggested approaches for implementing a CMSP data portal and/or distribution system. Both results will play significant roles in meeting the requirements of the recent legislation (CT PA 15-66, informally known as “The Blue Plan”) which directs the Agency, in collaboration with academia and a variety of public stakeholders, to develop a LIS resource inventory and subsequent place-based spatial plan.

The Blue Plan statute itself is a significant change (although enacted at the end of the Assessment period on July 1, 2015: <https://www.cga.ct.gov/2015/ACT/pa/pdf/2015PA-00066-R00HB-06839-PA.pdf>) that arose in part from OLISP’s 309 Ocean Resources activities. Its likely future outcomes will likewise be determined in part by OLISP’s 309 Ocean Resources strategy to develop and implement the Blue Plan and compile supporting data.

While there has been no significant change during this assessment period, the Long Island Sound Dredged Material Management Plan is currently out for public review and comment. We anticipate completion of the DMMP by January 2016.

3. Indicate if your state has a comprehensive ocean management plan.

Comprehensive Ocean Management Plan	State Plan	Regional Plan
Completed plan (Y/N) (If yes, specify year completed)	N	N
Under development (Y/N)	Y	Y
Web address (if available)	N	http://neoceanplanning.org/
Area covered by plan	LIS	Northeast region, including CT LIS

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.

The Ocean Resources area has been highlighted by stakeholders and regional partners as a focus of future planning needs. Connecticut has no comprehensive planning approach to assess the interactions of natural resources and human uses over time, or to evaluate future uses such as offshore energy or aquaculture facilities except on a case-by-case regulatory basis. Coastal and inshore activities are subject to municipal land use and harbor management plans, but there is no mechanism to plan for offshore areas or the Sound as a whole. Accordingly, OLISP has engaged in ocean planning at both the regional level, through NROC and the NE RPB, and the state level, working with the CT-NY Bi-State Marine Spatial Planning Working group, and these efforts were highlighted by the passage of the Blue Plan legislation authorizing DEEP to conduct marine spatial planning in Long Island Sound.

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)

PHASE I (HIGH-LEVEL) ASSESSMENT

Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

Resource Characterization:

1. In the table below, characterize the status and trends of different types of energy facilities and activities in the state’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	(# or Y/N)	Change Since Last Assessment
Energy Transport				
Pipelines	Y	↑ Algonquin HubLine/East to West Project, Norwich, CT (Docket Nos. CP08-420-000, -001) Issued by FERC on September 25, 2009	Y	↑Tennessee Gas Pipeline Northeast Expansion projected for CT in 2016

Electrical grid (transmission cables)	Y	-	Y	↑ISO-NE, NU, and UI have agreed to various preferred solutions to address transmission deficiencies in the Milford, Bridgeport and New Haven sub-areas.
Ports	Y	Unknown	N	Unknown
Liquid natural gas (LNG)	N	-	N	-
Other (Natural Gas Fuel Cells)	Y	↑	Y	↑ Multiple approved fuel cell sites in Derby, East Haven, Fairfield, New Haven and Bridgeport
Energy Facilities				
Oil and gas	Y	↑Natural Gas –fired Devon Units #12-#18 in Milford and New Haven Harbor Units #2 - #4 went into service between 2010 -2012	N	↓Anticipated retirements of the Norwalk Harbor generating plant and Bridgeport Harbor unit #2
Coal	Y	↓AES Thames coal power plant in Montville retired in 2011	N	-
Nuclear	Y	-	N	-
Wind	Y	Small examples on land, no large generation or off-shore facilities	N	Unknown
Wave	N	-	N	Unknown
Tidal	N	-	N	Unknown

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	(# or Y/N)	Change Since Last Assessment
Current (ocean, lake, river)	N	–	N	–
Hydropower	Y	-	N	-
Ocean thermal energy conversion	N	-	N	Unknown
Solar	Y	↑ Small examples on land	Y	Bridgeport
Biomass	Y	-	Y	A \$20 million food-to-energy digestion power plant is being considered along the Housatonic River in Ansonia
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.

Connecticut General Statutes section 16a-3a requires that the Department of Energy and Environmental Protection (DEEP) prepare an Integrated Resource Plan every two years. An Integrated Resource Plan (IRP) is comprised of an assessment of the future electric needs and a plan to meet those future needs. It is “integrated” in that it looks at both demand side (conservation, energy efficiency, etc.) resources as well as the more traditional supply side (generation/power plants, transmission lines, etc.) resources in making its recommendations on how best to meet future electric energy needs in the state.

http://www.ct.gov/deep/cwp/view.asp?a=4405&q=486946&deepNav_GID=2121%20

Since 1972, the Connecticut General Assembly has mandated the Connecticut Siting

Council to provide an annual review of our State’s electricity needs and resources, looking ahead ten years. The most recent of these reviews is detailed in the document entitled “Ten Year Forecast of Electric Loads and Resources 2012/13”, found at: http://www.ct.gov/csc/lib/csc/pendingproceeds/forecast_2012_2013/f2012_13_finalreport20131212.pdf. The numbers, fuel types and output of energy facilities in each Coastal Zone town can be found in Appendix A of this document.

The data and trends in these two reports seem to indicate power generation in Connecticut, including the Coastal Zone, is trending towards a heavy dominance of natural gas fueled power plants, with a lesser mix of renewables such as solar, biomass and fuel cells, and remaining oil fueled facilities. Although there is interest in wind, hydropower, hydrokinetic and wave technologies in the Coastal Zone, there are no known projects in development.

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

In the past, military base closures and consolidations have affected Connecticut’s coastal area through the closure of the Stratford Army Engine Plant and the Naval Undersea Warfare Center in New London, and the threatened closure of the New London Submarine Base. The coastal issues related to these base closures were successfully addressed by OLISP through municipal coastal site plan review, state regulation, and federal consistency requirements applying the existing resource protection and water-dependent use standards of the CMA. The remediation, transfer and ultimate reuse of the Stratford Army Engine Plant, however, are still pending and OLISP will continue to work with DEP Remediation staff and the Department of the Army to promote appropriate reuse of this waterfront site. Additionally, the land rights were obtained and a ceremonial ground-breaking occurred on May 5, 2014 for the construction of The National Coast Guard Museum at the north end of the Waterfront Park in downtown New London, adjacent to the new City Pier and Promenade. Currently, there is insufficient funding to build the estimated \$80 million museum, however officials are hopeful the waterfront museum can open in 2017.

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	N	Y

State comprehensive siting plans or procedures	Y	N	Y
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1. 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.

Public Act 11-80 established the new Connecticut Department of Energy and Environmental Protection (DEEP) on July 1, 2011, charged with the dual responsibilities of creating a new energy future for the state and protecting Connecticut's environment and natural resources. DEEP brought together the state's Department of Environmental Protection (DEP), the Department of Public Utility Control (DPUC) and an energy policy group that had been based at the Office of Policy and Management (OPM). The overarching goals of DEEP are to:

- Integrate energy and environmental policies and programs in a more systematic, proactive and coherent manner to provide a better structure for decision-making and to build a sustainable and prosperous economic future.
- Bring down the cost of electricity to make Connecticut more competitive, promote energy efficiency, and encourage the development and use of clean energy technologies.
- Unleash a renewed spirit of innovation for pollution control, conservation of natural resources, and management of Connecticut's parks and forests.

Public Act 11-80, required that DEEP develop the first-ever Comprehensive Energy Strategy for the State of Connecticut – an assessment and Strategy for all residential, commercial, and industrial energy issues, including energy efficiency, industry, electricity, natural gas, and transportation. Section 51 of this Act requires that DEEP, in consultation with the Connecticut Energy Advisory Board (CEAB), prepare a Comprehensive Energy Strategy for Connecticut every three years. The final Strategy was issued February 19, 2013. DEEP's overall responsibilities in implementing energy initiatives and programs can be viewed at:

http://www.ct.gov/deep/cwp/view.asp?a=4405&Q=499356&deepNav_GID=2121

The Connecticut Coastal Management Act defines “facilities in the national interest” to include energy facilities, at CGS §22-93(14), and establishes policies for siting such facilities at CGS §22-92(a)(10). In addition the Connecticut Siting Council must meet certain statewide environmental criteria for locating electric transmission lines, per CGS §§16-50g and 16-50p.

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.

With the continuing growth of energy demands of Long Island and coastal Connecticut (especially southwest Connecticut), we expect that we will continue to see a rise in the number and types of new energy projects. Even with the recession, electricity demand continues to grow, and Connecticut will still need to upgrade transmission lines, secure additional sources of natural gas, and meet renewable portfolio standards with wind or tidal electric generation projects. Many of these projects will be of a large scale, have regional ramifications, and be located in or directly affect Long Island Sound. Thus, while Connecticut has made little progress in establishing submerged lands management or marine spatial planning to deal proactively with energy facility siting, energy projects are almost certain to re-emerge in the future, and our coastal management program will be in exactly the same position to deal with them as we were ten years ago.

Under our existing authorities and arrangements, OLISP will continue to review specific proposals for submerged power transmission lines, fiber optic cables, natural gas pipelines and new alternative energy sources (wind, wave, and tidal) which can pose threats of benthic habitat disruption and resource use conflicts. However, without a comprehensive planning or management mechanism, we will continue to play catch-up, even as our neighboring states embark on coastal and marine spatial planning as discussed in the oceans section of this Assessment.

As discussed in the 2010 Assessment, the existing mechanisms for implementing Connecticut’s existing coastal management standards and authorities may no longer be adequate to address the issues associated with the development of new energy facilities in and near Long Island Sound. The controversies over interstate cables and pipelines highlighted two potential program deficiencies: a lack of resource and habitat information, especially for offshore, open-sound areas; and the lack of comprehensive mechanism to spatially plan for and manage uses of the State’s submerged public trust lands and waters. Without offshore use, resource and mapping information, Connecticut was handicapped in evaluating pipeline and cable proposals and cannot readily analyze potential adverse impacts or suggest preferable alternative locations. As discussed in the Oceans section of this Assessment, we have made progress in promoting seafloor mapping and in coordinating with other New England states in a regional CMSP effort, but we have been less successful in bringing CMSP to Long Island Sound.

Recent experience has shown that existing planning and regulatory programs are

inadequate to deal with large-scale energy projects, and that we lack baseline information on offshore resources, including submerged lands mapping. There are no major energy facility proposals pending or immediately foreseeable, so OLISP has maintained the priority of this Enhancement Area to medium. Nonetheless, Connecticut should take advantage of this lull to develop the capacity and institutional framework to be prepared for the next Broadwater or Islander East, by bringing Long Island Sound into the national movement for marine spatial planning.

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)

PHASE I (HIGH-LEVEL) ASSESSMENT

Purpose: To quickly determine whether the enhancement area is a high priority enhancement objective for the CMP that warrants a more in-depth assessment. The more in-depth assessments of Phase II will help the CMP understand key problems and opportunities that exist for program enhancement and determine the effectiveness of existing management efforts to address those problems.

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.

Type of Facility/Activity	Status and Trends of Aquaculture Facilities and Activities		
	# of Facilities	Approximate Economic Value	Change Since Last Assessment
Shellfish operations	40		Static (-)
Kelp operations	2		Slight increase
Eel growout farm	1		Increase
Private oyster hatchery	1		Static (-)
Commercial oyster hatchery	1		Static (-)
		Estimated value of above facility/activity is \$30 million	

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

CT DEEP-OLISP itself has not prepared any data or reports. However, CT Sea Grant has written a publication that documents the significance of the maritime industry in

CT's economy, titled "Valuing the Coast: Economic Impacts of Connecticut's maritime Industry"; <http://seagrant.uconn.edu/publications/value.pdf>. According to the report, commercial fishing in Connecticut, the majority of which is aquaculture/shellfishing, provides \$65 million in economic output and sustains 820 jobs in the industry.

In 2015, the Connecticut Department of Agriculture Bureau of Aquaculture (DA/BA) plans to mandate and collect specific aquaculture data (harvest information-bags/bushels of shellfish) from industry and will issue a report. Recent changes to the National Shellfish Sanitation Program Model Ordinance require the Shellfish Authority in each shellfish producing state to determine and report to the Interstate Shellfish Sanitation Conference the volume of shellfish harvested in that state. The intent of this new requirement is to allow the authority (in CT, DA/BA) to accurately assess the risk of illness associated with shellfish produced in the state.

In order to meet the new requirements, Connecticut's shellfish program will begin participating in the Atlantic Coastal Cooperative Statistics Program (ACCSP) via the Standard Atlantic Fisheries Information System (SAFIS) beginning with a pilot program to be implemented in 2015.

The ACCSP SAFIS eTrips online reporting tool will allow Connecticut managers to collect accurate shellfish production data, including that associated with aquaculture production, via the use of an online reporting system which provides ease of use and confidentiality for producers, while providing data management and data security for managers and program partners. Data to be collected for each harvest trip includes date, start time, CT shipper number, vessel, shellfish growing area fished, lease fished, type of gear used, activity type, species harvested, quantity harvested, size class harvested.

In addition to risk assessments, the data collected will allow managers to accurately assess the economic value of Connecticut's shellfish industry, and more specifically aquaculture production, at a level of detail never before possible. CT Sea Grant will then follow-up with a full economic assessment including the indirect impacts and economic multipliers for maritime industries. Currently, CT Sea Grant is working on an economic assessment of recreational harvest.

Management Characterization:

1. Indicate if the approach is employed by the state or territory and if there have been any state-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	Y	Y
Other aquaculture statutes, regulations, policies, or case law interpreting these	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.

Most of the following significant changes have come about through efforts of the Connecticut Department of Agriculture/Bureau of Aquaculture (DOA/BOA). For example, DOA/BOA has undergone a modernization of shellfish bed management. Please refer to the following link: http://www.ct.gov/doag/lib/doag/090514_DoAg_Shellfish_Communication.pdf

Connecticut Aquaculture Permitting Workgroup- The regulatory process for marine aquaculture and research involving aquatic organisms in Connecticut involves application review by state and federal agencies, as well as advisory comments by municipal shellfish commissions. As such, the process can become complex and burdensome if the applicant does not understand what is expected of them when completing an application. This has led to permitting delays, which are costly to producers, researchers and regulatory agencies. In an effort to prevent delays and reduce the time to acquire the necessary permits, the Connecticut Aquaculture Permitting Workgroup, a partnership among Connecticut Sea Grant, the Connecticut Department of Agriculture/Bureau of Aquaculture, Connecticut Department of Energy and Environmental Protection and the U.S. Army Corps of Engineers/New England District, have developed a workgroup to streamline the aquaculture permitting process. The workgroup meets quarterly, but maintains regularly coordination via phone and email to discuss projects, applications, and policies. Furthermore, the group works collectively with permit staff, federal agencies, state agencies, and local universities to address concerns of the aquaculture industry and associated resource managers. The workgroup has developed a variety of educational materials to inform applicants of the requirements of the various types of aquaculture permits and licenses. This group has also developed a Pre-Application

Screening Form that is provided to potential applicants which allows agencies to quickly determine if the location and activity place the project within the guidelines for the general aquaculture permitting process and State of CT exemption or if the project will require a more extensive application and review process. This Pre-application Screening Form can be found at the following link:

<http://www.nae.usace.army.mil/Missions/Regulatory/StateGeneralPermits/NewEnglandGeneralPermit.aspx>

CT Aquaculture Mapping Atlas-being developed by UCONN/CT Sea Grant-to assist shellfish farmers and shellfish commissions in reviewing aquaculture projects and in preparing applications. The CT Aquaculture Permitting Workgroup will also be using this atlas to assist in their reviews. <http://seagrant.uconn.edu/whatwedo/aquaculture/shellmap.php>

CT Shellfish Initiative/CT Shellfish Management Plan-this initiative maps out a vision for the future of CT Shellfish Resources which will cover all molluscan shellfish of commercial and recreational importance. This document is expected to provide comprehensive policy guidance regarding state management and protection measures for molluscan shellfish resources in town and state waters. The effort will involve multiple federal, state and local agencies, and will engage a broad and diverse group of stakeholders in identifying policies and practices to protect and enhance the State's natural shellfish resources, to promote sustainable commercial harvest and agricultural viability. DEEP-OLISP is a member of the CT Shellfish Initiative Steering Committee. The roles of this Committee are as follows: 1) identify stakeholder groups 2) identify stakeholder concerns and opportunities 3) assess relevance of stakeholder recommendations; 4) provide context for challenges identified; and 5) propose creative solutions (actions). At this stage, committee members are providing comments and feedback on the draft Connecticut Shellfish Initiative vision plan.

During the last assessment, a General Permit for Aquaculture was developed, intended to streamline the approval of minor aquaculture activities, including the placement of cultch, that would only have minimal adverse environmental impact when conducted individually or cumulatively through a 309 task. After development and internal review, it was determined by the CT DEEP-OLISP that this General Permit would not move forward due to its inability to effectively authorize all minor aquaculture activities. Instead, a more comprehensive review of DEEP-OLISP permitting streamlining was discussed. As such, a General Permit ("GP") for Coastal Maintenance has been developed. It is currently out for review and comment internally at CT DEEP. Included within this GP is the placement of cultch. "*Cultch*" means a substrate appropriate for larval oyster attachment, consisting of gravel or shell material. It is expected that by the end of summer 2015, that this GP will be authorized.

Enhancement Area Prioritization:

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

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

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

The state's planning and regulation of aquaculture operations has not significantly changed since the last assessment, and is overseen and largely implemented by the CT Department of Agriculture/Bureau of Aquaculture (CT DA/BA). The US Army Corps of Engineers ("ACOE") exercises federal regulatory authority over aquaculture structures in State's waters. Many regulated activities in CT's tidal, coastal and navigable waters are covered under the US ACOE Programmatic General Permit (PGP), which essentially piggybacks the OLISP permit process. Most of the aquaculture activities are eligible for review under the ACOE's PGP for Connecticut for which OLISP has already issued federal coastal consistency. Since OLISP maintains responsibility for determining coastal management consistency when aquaculture projects require federal permit, a coordinated regulatory approach has been developed (see sections above relating to the Aquaculture Permitting Workgroup and Pre-Application Screening Form).

IV. PHASE II ENHANCEMENT AREA ANALYSIS

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.

1a. **Flooding In-depth:** Using data from NOAA’s *State of the Coast* “Population in the Floodplain” viewer and summarized by coastal county through NOAA’s Coastal County Snapshots for Flood Exposure, indicate how many people at potentially elevated risk were located within the state’s coastal floodplain as of 2010.

2007-2011 Populations in CT 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	44,310	2%	20,198	1%
Outside Floodplain	393,313	18%	178,179	8%
Total Coastal County Population	2,208,120	-	-	-

1b. **Flooding In-depth:** Using summary data provided for critical facilities derived from FEMA’s HAZUS and displayed by coastal county through NOAA’s Coastal County Snapshots for Flood Exposure, indicate how many different establishments (businesses or employers) and critical facilities are located in the FEMA floodplain.

Critical Facilities in the FEMA Floodplain for CT Coastal Counties						
	Schools	Police Stations	Fire Stations	Emergency Centers	Medical Facilities	Communication Towers
Inside Floodplain	25	7	8	3	N/A	7
Coastal Counties	913	129	169	28	27	75

2. Based on the characterization of coastal hazard risk, what are the three most significant coastal hazards 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	Flooding - general	Throughout coastal zone
Hazard 2	Flooding - Storm Surge	Throughout coastal zone
Hazard 3	Non-episodic erosion	Throughout coastal zone, but the central coast, barrier beaches, and coastal marshes are most threatened.

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.

Historically, flooding from storms (excluding hurricanes /nor'easters) represents the most significant coastal hazard. High frequency events throughout the year combined with low-lying elevations and aging infrastructure (e.g., drainage systems, culverts, tide gates, etc.) present consistent issues across the coast.

Recent high intensity storms (notably Tropical Storms Irene and Sandy, but also numerous winter/spring nor'easters) bring high levels of precipitation but also storm surges that have overtopped and inundated areas typically not affected by smaller storm systems. The geographic scope of this threat is obviously predicated in large part on the specifics of a particular system; however, the entire coast is more or less at equal risk.

Non-episodic erosion (i.e., longer-term erosion trends that take into account the net effect of seasonal variations) represents a threat that has recently been re-assessed, updating information originally prepared during the very early years of Connecticut's Coastal Management Program nearly 35 years ago. A report "Analysis of Shoreline

Change in Connecticut - 100+ Years of Erosion and Accretion: Methodology and Summary Results” resulting from a cooperative effort between the Connecticut Department of Energy & Environmental Protection (DEEP), the Connecticut Sea Grant (CT Sea Grant) and the University of Connecticut Center for Land Use Education and Research (UCONN-CLEAR) identified shoreline erosion amounts and rates across the coast. While erosion is a factor to some degree coast-wide, areas in the central part of the state and along coastal marshes and barrier beaches show higher magnitudes of erosion.

There is extensive anecdotal and photographic information of flooding and erosion impacts, particularly following severe storms. Following Storm Irene, the Connecticut Shoreline Preservation Task Force compiled information about flooding and erosion risks from various experts and stakeholders and produced a recommendations report.

http://www.housedems.ct.gov/shore/pubs/Task_Force_Report_Final.pdf

The US Army Corps of Engineers North Atlantic Comprehensive Coastal Study assesses these vulnerabilities. Online tools such as DEEP’s Coastal Hazards Viewer (http://www.ct.gov/deep/cwp/view.asp?a=2705&q=480782&deepNav_GID=2022) and TNC’s Coastal Resilience Tool (<http://coastalresilience.org>) visually illustrate potential impacts of rising sea level and storm surges.

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

Emerging Issue	Information Needed
Wetland loss/retreat	Ongoing analysis of recently acquired Sea-Level Affecting Marsh Migration (SLAMM) data to identify and communicate areas of concern; additional high-resolution analyses taking into account site-specific conditions for areas of elevated threat and/or high resource value
Effects of climate change	Sentinel monitoring for key environmental indicators; access to and interpretation of historic data sources.
Sea Level Rise	Sea level rise projections scaled to LIS.
Storm surge inundation	High resolution modeling of coastal storm surge, riverine flooding, and the interaction of coastal and riverine flooding (currently under development with CIRCA). Accurate mapping of vulnerable housing and infrastructure based on improved modeling.

In-Depth Management Characterization:

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 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:			
Shorefront setbacks/no build areas	N	N	N
Rolling easements	N	N	N
Repair/rebuilding restrictions	Y	Y	Y
Hard shoreline protection structure restrictions	Y	Y	Y
Promotion of alternative shoreline stabilization methodologies (i.e., living shorelines/green infrastructure)	Y	Y	Y
Repair/replacement of shore protection structure restrictions	Y	Y	Y
Inlet management	N	N	N
Protection of important natural resources for hazard mitigation benefits (e.g., dunes, wetlands, barrier islands, coral reefs) other than setbacks/no build areas	Y	Y	Y
Repetitive flood loss policies (e.g., relocation, buyouts, etc.)	Y	Y	N
Freeboard requirements	N	N	N
Real estate sales disclosure requirements	N	N	N
Restrictions on publicly funded infrastructure	Y	Y	N

Infrastructure protection (e.g., considering hazards in siting and design)	Y	Y	N
Other (please specify)	-	-	-
Management Planning Programs or Initiatives:			
Hazard mitigation plans	Y	Y	Y
Sea level rise or climate change adaptation plans	Y	Y	
Statewide requirement for local post-disaster recovery planning	N	N	N
Sediment management plans	N	N	N
Beach nourishment plans	N	N	N
Special Area Management Plans (that address hazards issues)	N	N	N
Managed retreat plans	N	N	N
Other (please specify)	-	-	-
Research, Mapping, and Education Programs or Initiatives:			
General hazards mapping or modeling	Y	Y	Y
Sea level rise mapping or modeling	Y	Y	Y
Hazards monitoring (e.g., erosion rate, shoreline change, high-water marks)	Y	Y	Y
Hazards education and outreach	Y	Y	N
Other (please specify)	-	-	-

- 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?

There is no definitive quantitative assessment comparing past and current state of coastal resilience upon which to base a conclusion. The USACE NACCS may provide a good baseline of comparison for a similar characterization in the future.

The CT Coastal Management Program's most recent Federal 312 Review notes the following accomplishments with respect to Hazards Resilience:

- The CT CMP has successfully supported innovative local government efforts to increase climate resilience through technical and financial assistance and through leveraging regional and national resources.
- The CT CMP has successfully worked with partners to restore coastal habitats and protect coastal lands to increase coastal resilience.
- Stakeholders commended the CT CMP for its response to Irene (2011), learning from that event, and providing for an even smoother response with Sandy (2012).

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: Living Shoreline Program

Description: In an effort to address building pressure by both property owners and legislators to allow more structural solutions to coastal erosion, DEEP recognizes a priority need to establish a legal definition of living shorelines, develop best practices and to conduct outreach to assist coastal property owners with selecting the most environmentally acceptable approach to managing shoreline erosion in coastal hazard areas.

Management Priority 2: Historic Shoreline Change - Casual Analysis and Impacts Assessment

Description: Building on a recent shoreline change assessment to look more closely at areas of significant change to examine causes and offer possible management alternatives that can mitigate future impacts.

Management Priority 3: Develop Applied Science and Policy Analysis

Description: Collaborate with CT Institute for Resiliency and Climate Adaptation (CIRCA). CIRCA represents a partnership between DEEP and UCONN to increase the resilience and sustainability of vulnerable communities along Connecticut's coast and inland waterways to the growing impacts of climate change on the natural, built, and human environment. By working to identify critical issues relating to flooding, coastal resource threats (e.g., wetland retreat), infrastructure resilience, and planning policies OLISP can leverage targeted research and communication resources to extend the ability of the Coastal Management Program to address, respond to, and communicate resiliency

strategies to the public.

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.

Priority Needs	Need? (Y or N)	Brief Explanation of Need/Gap
Research	Y	Efficacy of alternative shoreline erosion control (non-structural, soft structures/living shorelines, etc.) for CT coastal environments; extended research of recent shoreline change assessment to address potential causes and impacts of shoreline change; analysis of policy implementation issues and financing options for increasing resilience.
Mapping/GIS/modeling	Y	Revisions to coastal boundary resulting from FEMA Flood Plain re-delineations; analysis of CT SLAMM marsh migration data to identify areas of concern/threat; high resolution modeling of coastal and riverine flooding; improved wave data and modeling; improved mapping of vulnerable housing and infrastructure.
Data and information management	N	
Training/Capacity building	Y	Best practices and training for the engineering community on living shorelines and other alternatives to hard structures.
Decision-support tools	Y	Need definition of living shoreline in statute. Risk-based tools for assessing infrastructure vulnerability.
Communication and outreach	Y	Support for any and all research/Mapping efforts to educate and increase public awareness.
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

Following two major coastal storms during the last assessment period, coastal resilience has become a significant focus of policy debate and change. A strategy will be developed to provide additional guidance in response to recent statutory changes and forthcoming work of CIRCA. Initially, this strategy will address the Living Shoreline Program identified in Priority 1. The concept of Living Shorelines as a more sustainable and resilient and less environmentally damaging approach to shoreline protection than traditional hard structures was introduced in recent legislation. However, because there is little experience with such approaches in Connecticut, there is confusion about what constitutes a Living Shoreline, and more detailed and explicit guidance is needed to provide regulatory clarity and foster implementation of these alternatives. In addition, as CIRCA gains momentum, technical and policy research is expected to lead to the need for clarifying guidance and possibly statutory changes.

Ocean Resources

In-Depth Resource Characterization:

Purpose: To determine key problems and opportunities to enhance the state CMP to better address cumulative and secondary impacts of coastal growth and development.

1. What are the three most significant existing or emerging stressors or threats to ocean resources 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 land-based development; offshore development (including pipelines, cables); offshore energy production; polluted runoff; invasive species; fishing (commercial and/or recreational); aquaculture; recreation; marine transportation; dredging; sand or mineral extraction; ocean acidification; 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	Pollution/climate change	All LIS
Stressor 2	Use conflicts with ocean resources, for example, impacts of cable and pipeline installation on benthic habitat.	All LIS
Stressor 3	Use conflicts among uses, for example, impacts of cable and pipeline installation on aquaculture, and impacts of aquaculture on recreational boating.	All LIS

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

The Phase 1 assessment presents the case that benthic habitats and living marine resources in LIS are still seeing the ongoing impacts as a result of water quality issues (e.g. nutrient loading) as well changes in temperature (likely resulting from shifts in climate) and human use impacts (e.g., increased fishing efforts.) Additionally, use conflict stressors (notably onshore development pressures, offshore development threats, and dredged material management) represent omnipresent threats.

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
Use conflicts involving potential new/unknown uses	Spatial analysis of existing and potential resources and uses

In-Depth Management Characterization:

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

1. For each of the additional ocean resources management categories below that were 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)
Ocean research, assessment, monitoring	Y	Y	N
Ocean GIS mapping/database	Y	Y	Y
Ocean and Great Lakes technical assistance, education, and outreach	Y	Y	N
Other (please specify)	N/A	N/A	N/A

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.

Since the last assessment the CT CZM program (using 309 and other CZM resources), in partnership with the EPA Long Island Sound Study, New York Department of Environmental Conservation, New York Department of State, and the Sea Grant offices of Connecticut and New York, have established a LIS Benthic Mapping Program using funds from a settlement account created by enforcement actions on three utility companies' cable crossings. The preliminary results of a pilot study are presented in the Phase 1 assessment. These efforts have provided a wealth of geologic, ecologic, and physical data that are currently being used by additional spatial planning efforts. As a result of the successful pilot effort the products and processes are currently being evaluated for implementation in additional areas of LIS that are expected to generate equally useful products and information to further extend and enhance spatial planning and resource management.

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 planning for the use of ocean resources 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 informal LIS Marine Spatial Planning Working Group has completed draft studies of a marine planning framework and available data and information for LIS CMSP. Final versions of these reports should be available shortly. Included below are some summary results:

Framework:

- The Framework team assisted a consultant in developing a report that compiled a range of options for LIS CMSP. The report described the need for marine spatial planning in Long Island Sound, evaluated existing LIS governance institutions and authorities, and identified a continuum of options for establishing different elements of a marine spatial plan for the Sound. The specified elements included Plan authority and structure; the scope and scale of the plan; its vision, guiding principles, goals and objectives; the Plan preparation process; stakeholder engagement; and Plan elements and content. The different Plan elements were displayed in matrix form and further organized as four scenarios for implementing LIS MSP: In order of increasing integration and complexity, The Two-State Solution; The "Light" Blue Plan approach; The "Thorough" Blue Plan approach; and One Comprehensive Plan. Finally, the Report included a number of references and appendices including examples drawn from other MSP initiatives.
- OLISP considered the Framework Report a valuable resource that could be

used as something of a “handbook” or reference document in developing the Blue Plan. However, due to significant late edits by NY DOS, the team was not able to publicly release the Framework document within the anticipated timeframe. At this point, the team may be turning towards developing a less-comprehensive version of the Report for immediate use by the Blue Plan Advisory Committee in the near future.

Data and Information:

- The team first developed a comprehensive LIS MSP baseline inventory comprising 361 geospatial datasets, which together form the starting point for the data analysis that would need to be accomplished in support of LIS MSP. The team also identified a series of datasets in development as well as a few data gaps, both of which should be considered in further developing this inventory in support of LIS MSP. Secondly, the team recommended the adoption of the NY Dept of State’s forthcoming “Geographic Information Gateway” for use as a data portal in support of LIS MSP. Additionally, the team recommended the adoption of the NY Dept of State Geographic Information Gateway data standards for use in standardizing all geospatial data in support of LIS MSP.
- This report concludes with recommended next steps to pursue in support of LIS MSP data management. These include identifying high priority datasets, evaluating dataset quality, and adding datasets to the NY Geographic Information Gateway, as well as building out the LIS Focus Area of the NY Gateway. These also include revisiting data gaps; building communication with other data suppliers; ensuring new data products are integrated; and reviewing data and map products produced by other planning processes for use in LIS. Lastly continuing discussion with the broader Working Group and partners about how to advance the usability of geospatial data and tools to support of LIS MSP is encouraged.

Identification of Priorities:

1. Considering changes in threats to ocean resources 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 its ability to effectively plan for the use of ocean resources. (*Approximately 1-3 sentences per management priority.*)

Management Priority 1: Long Island Sound Marine Spatial Planning

Description: A robust marine spatial planning capability will be critical to managing uses such as energy facilities and offshore aquaculture that could cause environmental impacts and impact marine commerce, commercial and recreational fishing and boating.

Management Priority 2: Benthic Habitat Mapping

Description: Long Island Sound has only partial and/or outdated data on sea floor environments (i.e., sedimentary mapping in deep waters). Without better data and information on the sedimentary environments, habitats and uses, it is difficult to support

meaningful ocean governance efforts essential to conserve ocean resources, protect marine commerce and marine fishing.

Management Priority 3: Dredged Material Management

Description: Connecticut has participated in the development of an interstate, intergovernmental dredged materials management plan for Long Island Sound. The development of this plan for Long Island Sound is critically important to the future viability of marine commerce and recreational boating. While completion of the DMMP is expected prior to this planning period, development and implementation of policy changes and guidance to promote beneficial reuse of dredged material may be needed.

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	NEEDS: Ongoing research relative to impacts of climate change with respect to benthic habitats and marine resources; sentinel monitoring of key environmental indicators
Mapping/GIS	Y	NEEDS: Benthic mapping data on key themes of geology & ecology to support spatial planning; use data (e.g., fishing effort, marine transportation, etc.) to support spatial planning
Date and information management	Y	NEEDS: Capacity to store/share LIS resource data, particularly web-enabled formats consumable by various regional data portals
Training/Capacity building	Y	N/A. OLISP staff has relevant expertise as well as recent training in CMSP
Decision-support tools	Y	NEEDS: Required to extend the capacity of data used in spatial planning to assist in decision making
Communication and outreach	Y	NEEDS: To garner the public support to advance the implementation of spatial planning efforts
Other (Specify) Legal Authority	Y	NEEDS: Specific statutory authorization to undertake MSP in Long Island Sound, with legal authority to establish planning framework and implement through permit programs.

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.

Marine spatial planning strategies will be developed to support and advance the priorities 1 and 2 listed above. By concentrating resources on these efforts, the CT CMP can expect to make progress to reducing and/or mitigating the effects of the stressors listed in section 1 of this Phase 2 assessment.

V. STRATEGIES

Coastal Hazards Statutory Changes and Policy Guidelines

I. Issue Area(s)

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 |
| <input checked="" type="checkbox"/> Coastal Hazards | <input type="checkbox"/> Marine Debris |
| <input type="checkbox"/> Ocean Resources | <input type="checkbox"/> Public |
| <input type="checkbox"/> Access 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;
- 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,
- 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: Statutory Changes and Policy Guidelines

State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project with the expectation that achieving the goal would eventually lead to a program change. For strategies that implement an existing program change, the goal should be a specific implementation milestone. For example, work with three communities to develop revised draft comprehensive plans that consider future sea level rise or, based on research and policy analysis, present proposed legislation on wetland buffers to state legislature or consideration. Rather than a lofty statement, the goal should be achievable within the time frame of the strategy.

The goal of this strategy is to specify planning and regulatory standards and guidelines regarding recently adopted and emerging coastal resilience policies (particularly Living Shorelines, but also including community resilience issues identified by CIRCA) and to facilitate implementation by preparing guidance documents and outreach materials for the regulated community.

- C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)

Initially, OLISP will develop a workable regulatory definition for living shorelines that will help operationalize and implement recent statutory policies, and encourage property owners/applicants to consider and municipalities to evaluate living shoreline treatments. If appropriate, OLISP will seek to have the definition adopted in a Departmental legislative proposal or pursue other official adoption processes. Subsequently, OLISP will create new policy guidance documents and outreach materials such as PowerPoint presentations explaining the state's regulatory approach to managing living shoreline projects. While some guidance and outreach will be directed to coastal municipalities in the same manner as OLISP's traditional coastal site plan review workshops, the major effort of the living shoreline guidance will focus on consultants and agents for permit applicants. The perceived needs of property owners/applicants drive the regulatory process, and our experience has been that one of the chief obstacles to the adoption of living shoreline techniques has been the lack of experience and familiarity on the part of applicants' consultants with LS options. In addition, OLISP will seek any necessary statutory changes and develop policy guidance in response to technical and policy research undertaken by CIRCA. For example, CIRCA will be developing new sea level rise projections for the Connecticut coast.

III. Needs and Gaps Addressed

Identify what priority needs and gaps the strategy addresses and explain why the proposed program change or implementation activities are the most appropriate means to address the priority needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.

Initially, this strategy will address the programmatic objectives to preserve and restore the protective functions of natural shoreline features such as beaches, dunes, wetlands, and natural bluffs. Developing a regulatory definition will allow and encourage more living shoreline projects. These softer treatments will provide more shoreline which diverges from more traditional shoreline hardening projects. In addition, municipalities and state agencies need guidance regarding how to adopt and use updated sea level rise projections. Finally, as CIRCA develops policy recommendations and develops new data and tools for managing coastal hazards, it is expected that additional policy changes and guidance will be needed.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

Currently, there are two references to living shorelines in the Connecticut General Statutes. These two references include some description of what a living shoreline may entail but neither lays out a specific definition. As such, some members of the regulated community

have shied away from proposing more natural shoreline treatments due to confusion regarding what a living shoreline may entail. Likewise, the regulators at both the state and local levels are having some trepidation in approving new techniques as they are unclear whether they may meet the intent of the living shoreline approach as well. The effect of the first part of this strategy will be to provide a clear statutory definition so that regulators and the regulated community are drawing from the same language and also to provide guidance documents regarding the regulatory approach. The value of this strategy is to encourage more living shoreline projects and to ensure quick regulatory reviews. This will result in positive environmental outcome possible.

Furthermore, Connecticut state agencies and municipalities have been directed by statute to consider sea level rise in various planning activities, some of which may eventually cause potential regulatory implications at the local level. The guidance that results from this strategy will assist agencies and municipalities with developing new regulatory approaches to resilient coastal development. Likewise, policy changes and guidance regarding emerging coastal hazards information will assist state agencies and municipalities to prepare for and become more resilient to storms and climate change.

V. Likelihood of Success

Discuss the likelihood of attaining the strategy goal and program change (if not part of the strategy goal) during the five-year assessment cycle or at a later date. Address the nature and degree of support for pursuing the strategy and the proposed program change and the specific actions the state or territory will undertake to maintain or build future support for achieving and implementing the program change, including education and outreach activities.

In light of the post-Irene and post-Sandy heightened awareness of coastal resilience efforts, we believe that the development and implementation of revised statutory policies are very likely within the five-year assessment cycle. We believe that we have the necessary support from key legislators and the regulatory community to see this effort through. In addition, we expect no problems in developing and implementing planning/regulatory guidance, with or without the statutory changes.

VI. Strategy Work Plan

Provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. If the state intends to fund implementation activities for the proposed program change, describe those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCRM recognizes that they may change somewhat over the course of the five-year strategy unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.

Strategy Goal: Statutory Changes and Guidance Documents

Total Years: 5

Total Budget: \$175,000

Year 1

Description of activities: Development of Living Shorelines Guidance

Major Milestones(s): Convene internal working group, and external advisory group to verify levels of LS awareness and test appeal of LS techniques, create definitions, illustrations and guidance for living shorelines options and techniques, develop draft guidance document and seek review by working groups, develop legislative proposal and outreach materials.

Budget: \$45,000

Year 2

Description of activities: Finalize Living Shoreline legislative proposal and guidance documents; develop sea level rise implementation guidance for regulated community

Major Milestone(s): Final Living Shorelines legislative proposal resulting in statutory changes; publish updated guidance documents and outreach materials on OLISP website. Convene DEEP/CIRCA working group, perform implementation options analysis and develop draft guidance regarding use of any new sea level rise information.

Budget: \$45,000

Year 3

Description of activities: Complete sea level rise guidance; develop draft legislative proposals if needed and draft guidance documents on emerging issues.

Major Milestone(s): Final sea level rise implementation guidance; publish updated sea level rise guidance documents on OLISP website. Convene DEEP/CIRCA working group, draft legislative proposals and draft guidance for state and local resilience implementation needs as identified through CIRCA community engagement and policy needs research. Pilot implementation of new guidance to selected coastal municipalities in coordination with CIRCA's outreach program.

Budget: \$25,000

Years 4-5

Description of activities: Develop draft and final legislative proposals and guidance documents on policy issues identified by CIRCA.

Major Milestone(s): Draft and final legislative proposal (as needed) and final implementation guidance; publish updated guidance documents on OLISP website.

Budget: \$25,000 per year

VII. Fiscal and Technical Needs

A. Fiscal Needs: If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.

This strategy will be supported indirectly by CIRCA funding.

B. Technical Needs: If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).

CIRCA will provide research, products and outreach that are likely to lead to policy changes and support implementation of policy changes.

Development and Implementation of LIS Blue Plan [Long Island Sound Marine Spatial Plan]

I. Issue Area(s)

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 |
| <input checked="" type="checkbox"/> Coastal Hazards | <input type="checkbox"/> Marine Debris |
| <input checked="" type="checkbox"/> Ocean Resources | <input type="checkbox"/> Public |
| <input type="checkbox"/> Access 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;
- 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,
- 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:** Adoption, Development and Implementation of LIS Blue Plan

State the goal of the strategy for the five-year assessment period. The goal should be the specific program change to be achieved or be a statement describing the results of the project with the expectation that achieving the goal would eventually lead to a program change. For strategies that implement an existing program change, the goal should be a specific implementation milestone. For example, work with three communities to develop revised draft comprehensive plans that consider future sea level rise or, based on research and policy analysis, present proposed legislation on wetland buffers to state legislature or consideration. Rather than a lofty statement, the goal should be achievable within the time frame of the strategy.

To deliver a draft Long Island Sound marine spatial plan to the Connecticut Legislature by the statutory deadline of March 1, 2019, and to achieve formal legislative adoption and the submission of the Plan to OCM as a Program Change by Sept 30, 2021.

- C. Describe the proposed strategy and how the strategy will lead to and/or implement the program changes selected above. If the strategy will only involve implementation activities, briefly describe the program change that has already been adopted, and how the proposed activities will further that program change. (Note that implementation strategies are not to exceed two years.)

This strategy proposes to establish marine spatial planning within the Connecticut waters of Long Island Sound, in accordance with legislation known as the Blue Plan (CT PA 15-66<http://www.cga.ct.gov/2015/ACT/pa/pdf/2015PA-00066-R00HB-06839-PA.pdf>.)

Under the terms of the legislation, which became effective on July 1, 2015, the Department would be responsible for coordinating the completion of an inventory of the Sound's natural resources and human uses, in conjunction with the University of Connecticut, and for developing a place-based plan to preserve and protect the State's coastal resources and uses through spatial planning.

Previous strategies have successfully created considerable networks and capacity in both data-gathering and planning functions and these will be continued as components of this strategy. In particular, the LIS Bi-State working group led by The Nature Conservancy and Sea Grant, in which OLISP staff has participated, has leveraged private resources to create extensive reports on Data and Information needs and a Framework for implementing CMSP in Long Island Sound. Further, the LIS Cable Fund Mapping Program has and will continue to provide essential baseline benthic resource and use data to enable a more informed planning/regulatory capacity. These will serve as key starting points for the work of the Blue Plan advisory committee to build and expand on, which will consider the policy goals and consultation requirements specified in the legislation in the four-year process of developing the plan.

III. Needs and Gaps Addressed

Identify what priority needs and gaps the strategy addresses and explain why the proposed program change or implementation activities are the most appropriate means to address the priority needs and gaps. This discussion should reference the key findings of the assessment and explain how the strategy addresses those findings.

Historically, Connecticut has lacked a sufficient institutional and legal capacity to plan for and manage offshore resources and uses on a spatial basis. There has been no central focus for LIS resource and use information, and no structured methods of addressing potential future challenges such as large-scale offshore energy or aquaculture facilities except through ad hoc, case-by-case permit review. It has been long noted among the regulatory community that the lack of current, relevant benthic resource data often leads to reactive rather than pro-active decisions, particularly with respect to alternatives assessments.

IV. Benefits to Coastal Management

Discuss the anticipated effect of the strategy, including the scope and value of the strategy, in advancing improvements in the CMP and coastal management, in general.

The inauguration of a statutory-based Long Island Sound MSP program will ultimately result in a more effective ecosystem-based plan for protecting and conserving ocean

resources, promoting appropriate uses and resolving conflicts between competing uses. Efforts toward compiling seafloor mapping and other resource data (the “Inventory” described in the legislation) will provide essential baseline resource and use data to enable a more informed planning/regulatory capacity for issues relating to energy facilities, dredged material management, sediment sources for beach nourishment, and offshore aquaculture facilities, among other current and potential uses. The official existence of a Long Island Sound Marine Spatial Plan that must be considered in all state regulatory decisions, will establish a management framework within which to apply this resource data, to efficiently allocate and balance the needs of different users, and to assert the State’s proprietary authority over its public trust submerged lands and waters. In addition, the Blue Plan process presents a formal opportunity for collaborating with New York’s LIS coastal program, building upon existing data-sharing and other cooperative efforts. While the legal and institutional structure of New York’s coastal program is quite different than Connecticut’s, NY DOS staff have expressed their support for the Blue Plan as an incentive to prioritizing LIS within their management structure, and both NY DOS and DEC staff have consistently participated along with OLISP staff in the unofficial LIS Bi-State MSP Working Group.

V. Likelihood of Success

Discuss the likelihood of attaining the strategy goal and program change (if not part of the strategy goal) during the five-year assessment cycle or at a later date. Address the nature and degree of support for pursuing the strategy and the proposed program change and the specific actions the state or territory will undertake to maintain or build future support for achieving and implementing the program change, including education and outreach activities.

The likelihood of establishing marine spatial planning in Long Island Sound through the Blue Plan legislation is higher than ever before in that it is now a statutory obligation. The legislation has been successfully passed, and work tasks that are required can easily leverage previous activities that align with required outcomes. Further, a wide range of user groups and networks have been involved in the legislative development and are supportive of its successful implementation.

VI. Strategy Work Plan

Provide a general work plan that includes the major steps that will lead toward or achieve a program change or implement a previously achieved program change. If the state intends to fund implementation activities for the proposed program change, describe those in the plan as well. The plan should identify a schedule for completing the strategy and include major projected milestones (key products, deliverables, activities, and decisions) and budget estimates. If an activity will span two or more years, it can be combined into one entry (i.e., Years 2-3 rather than Year 2 and then Year 3). While the annual milestones are a useful guide to ensure the strategy remains on track, OCRM recognizes that they may change somewhat over the course of the five-year strategy unforeseen circumstances. The same holds true for the annual budget estimates. Further detailing and adjustment of annual activities, milestones, and budgets will be determined through the annual cooperative agreement negotiation process.

The Blue Plan legislation itself will establish goals, objectives, policy considerations, consultation and outreach requirements, a timetable, and legal obligation for OLISP to

achieve the proposed program change. There are firm deadlines for the first meeting of the Blue Plan advisory committee by August 28, 2015 and for submission of a draft plan to the legislature in mid-2019. Since the Commissioner of DEEP is charged with overall responsibility for developing the Blue Plan and for chairing the Advisory Committee, staff responsibility will largely fall to OLISP. Of course, a more detailed work plan will depend on the decisions and participation of the full Advisory Committee and upon consultation with stakeholders and the public, so specific work tasks must remain somewhat flexible at this point.

Strategy Goal: Adoption, Development and Implementation of LIS Blue Plan

Total Years: 5

Total Budget: \$537,500

Years 1-2

Description of activities: Working with statutorily-established Blue Plan Advisory Committee, Subcommittee and partners/stakeholders, implement work program to compile resource and use inventory; working with existing data and new data generated through the LIS Cable Fund Mapping program, develop spatial data and maps to form the basis for an overall Blue Plan; coordinate with New York partners as feasible and appropriate.

Outcome(s): Advisory Committee and Subcommittee work plan, schedule of meetings, consultation and outreach program. Mapping products showing different geographic focus areas, such as areas of environmental concern or areas suitable or unsuitable for particular activities, facilities or uses regulated by state permit programs; completed Inventory of Long Island Sound resources and uses.

Budget: \$97,500 annually

Years 3-4

Description of activities: Complete the draft Long Island Sound Resource and Use Inventory and Blue Plan, conduct public hearings, submit for legislative approval.

Outcome(s): Official final drafts of the Resource and Use Inventory and Blue Plan, with supporting maps, databases and documents

Budget: \$117,500 annually

Year 5

Description of activities: Upon Plan approval, undertake public outreach program, implement Plan through applicable permit processes, and submit Plan to OCM for incorporation as a program change.

Outcome(s): Implementation of approved Plan, including program for regular evaluation and updates as specified in the legislation (ongoing Advisory Committee review, annual public hearings, revisions every five years); submission of Plan as a program change, with

incorporation of Plan elements as state enforceable policies for the purposes of federal CZMA consistency.

Budget: \$117,500

VII. Fiscal and Technical Needs

A. Fiscal Needs: If 309 funding is not sufficient to carry out the proposed strategy, identify additional funding needs. Provide a brief description of what efforts the CMP has made, if any, to secure additional state funds from the legislature and/or from other sources to support this strategy.

In order to advance the Blue Plan bill through the legislature in this difficult budget year, it was essential to describe the proposal as not requiring any additional state general funds. Nonetheless, additional efforts on the part of OLISP will be required, and 309 funding will be necessary but not entirely sufficient to carry out the entire strategy. We expect to obtain the required resources through a combination of staff reallocations, special DEEP funds (such as the LIS License Plate or SEP Fund), other external funds (e.g., the LIS Cable Fund,) private grants raised by partners such as TNC, and a potential OCM Fellowship application.

B. Technical Needs: If the state does not possess the technical knowledge, skills, or equipment to carry out all or part of the proposed strategy, identify these needs. Provide a brief description of what efforts the CMP has made, if any, to obtain the trained personnel or equipment needed (for example, through agreements with other state agencies).

OLISP does not have the in-house technical capacity to conduct all the necessary resource and use data compilation and mapping. However, the legislation provides and we have always anticipated working with UConn in order to carry out the information needs of the Blue Plan. In addition, other partners such as NROC and TNC are expected to help provide capacity as well as technical mapping support provided through the efforts of the LIS Cable Fund.

5-Year Budget Summary by Strategy

Budget Table summarizing anticipated Section 309 expenses by strategy for each year:

Strategy Title	Year 1 Funding	Year 2 Funding	Year 3 Funding	Year 4 Funding	Year 5 Funding	Total Funding
Blue Plan	\$98,000	\$98,000	\$118,000	\$118,000	\$118,000	\$538,000
Resilience Legislation/Guidance	\$45,000	\$45,000	\$25,000	\$25,000	\$25,000	\$175,000
Total Funding	\$143,000	\$143,000	\$143,000	\$143,000	\$143,000	\$713,000

VI. PUBLIC REVIEW

On May 30, 2015, OLISP published in six major shoreline newspapers a public notice soliciting comments on the draft 309 Assessment and Strategies, providing a 30-day review period and referring readers to the draft document posted on the DEEP website. Along with the draft document, a copy of the notice itself was also posted throughout the summer at www.ct.gov/deep/coastalmanagement, allowing public comment up until final submission to OCRM. During the period from May 27 to June 30, 2015, 178 visits were made to the coastal management web page that prominently featured the 309 Assessment & Strategies notice. Of these visitors, 30 went on to view the pdf of the draft document. Earlier in the spring, the OLISP Director e-mailed a number of individual stakeholders in government, municipal, and NGO communities to advise them of the upcoming draft Assessment and Strategies. While OLISP received no specific comments in response to the public notice, one of the stakeholders, the former Transportation and Maritime Manager for the Department of Transportation, pointed out that none of the nine enhancement areas focused on economic factors, particularly port development. OLISP responded that the 309 process was designed to enhance certain specified areas, and did not reflect the entirety of the State's coastal management program, which does indeed consider appropriate economic development and promote maritime commerce.