

# LONG ISLAND SOUND BLUE PLAN

*Sustainable Ecosystems - Compatible Uses*

## Executive Summary

### **Purpose and Need for Marine Spatial Planning**

Long Island Sound is an estuary located within a highly urbanized, highly populated area of the United States; an estimated 23.8 million people live within 50 miles of its shores (Long Island Sound Study, 2019). The Sound provides a variety of recreational opportunities to citizens living in the region while serving as an important habitat for fish and other marine wildlife, contributing an estimated \$9.4 billion annually to the regional economy (Long Island Sound Study, 2019).

Long Island Sound is heavily utilized in some way by humans and wildlife alike, oftentimes in the same places. New offshore development and uses can sometimes cause harmful impacts to the plants and animals that live in the Sound, and can sometimes conflict with existing human uses as well. Some prior development proposals for the Sound, such as the Broadwater floating LNG (liquefied natural gas) facility, generated considerable controversy.

Today, other states in the region are already experiencing challenges associated with offshore wind development. While the waters of Long Island Sound will not likely experience the same wind development pressure as other states in the region, the cables associated with these neighboring offshore wind proposals could possibly enter the Sound. Further, other cross-Sound infrastructure projects and offshore uses like seaweed farms also have the potential to be located within Long Island Sound.

Historically, many of these pressures on the Sound have been reviewed on a case-by-case basis by several separate state and local regulatory programs, without a comprehensive plan to assess and understand the presence and distribution of ecological resources and human uses in the Sound. A comprehensive plan would better organize the analysis of and response to large, complex projects like these, so that such new uses don't conflict with the broad diversity of existing uses or natural resources. With the creation of the Blue Plan based on the underlying

public trust doctrine, Connecticut will have an explicit legal basis for comprehensive, adaptive, and proactive management of the Sound.



**Example of Various Human Uses and Ecological Resources in Long Island Sound<sup>1</sup>**

## **The Blue Plan Act**

In an effort to establish a coordinated and integrated review process for new offshore uses in Long Island Sound, the Connecticut General Assembly passed Public Act 15-66, An Act Concerning a Long Island Sound Blue Plan and Resource and Use Inventory (codified in [Connecticut General Statutes \(CGS\) § 25-157t](#)), which requires the Connecticut Department of Energy and Environmental Protection to develop a marine spatial plan for Long Island Sound. Known as the “Blue Plan,” its purpose is help the state effectively manage the Sound’s public trust waters by providing science-based, fully formed, commonly planned goals, siting priorities, and standards that must be considered in the review of applications for offshore activities pursuant to the following existing regulatory programs:

- [CGS § 16-50K](#), Certificate of environmental compatibility and public need
- [CGS § 22-11h](#), Permits for aquaculture operations
- [CGS § 22-11i](#), Licensing of aquaculture producers
- [CGS § 22-11j](#), Planting and cultivating seaweed. Prohibition on interference with right of fishing or shellfishing

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<sup>1</sup> Photo Credit: Middlesex Community College – Center for New Media Productions

- [CGS § 22a-6k](#), Emergency authorization for regulated activity. Temporary authorization for regulated activity
- [CGS § 22a-359](#), Regulation of dredging, erection of structures, and placement of fill in tidal, coastal, or navigable waters. Sunken or grounded vessels.
- [CGS § 22a-361](#), Permit for dredging, structures, placement of fill, obstruction or encroachment, or mooring area or facility. General permits. Removal of sand, gravel or other material.
- [CGS § 22a-363b](#), Certificate of Permission
- [CGS § 22a-363d](#), Emergency Authorization
- [CGS § 22a-430](#), Permit for New Discharge
- [CGS § 25-157b](#), Crossings of Long Island Sound. Evaluation of application’s consistency with comprehensive environmental assessment plan.
- [CGS § 26-194](#), Leasing of shellfish grounds. Fee. Utility lines and public use structures. Shellfish removal or relocation costs. Annual host payments for Long Island Sound crossings. Designation of shellfish areas to regional agricultural science and technology education centers.
- [CGS § 26-257a](#), Local shellfish commissions
- [Section 401 Federal Water Pollution Control Act](#), Water Quality Certification

As a marine “spatial” plan, the Long Island Sound Blue Plan identifies the “spaces” in the Sound that are currently used by humans (e.g., commercial and recreational boating and fishing areas, ferry transportation routes, electric and gas pipeline locations, aquaculture farms) and the “spaces” that are ecologically important (e.g., shellfish beds, cold-water corals, areas where seals rest on the rocks), and protects those spaces by establishing policies that avoid and reduce conflicts and impacts among human uses of the Sound, and between human uses and the Sound’s natural resources.

Although the Long Island Sound Blue Plan statute was passed by the Connecticut General Assembly in 2015, that legislation was several years in the making. A Connecticut/New York Bi-State Marine Spatial Planning Working Group was formed in 2012 to set the stage for establishing a marine spatial plan for Long Island Sound. The concept of “Marine Spatial Planning” had already caught on in the northeast, mostly in response to offshore wind development proposals. Efforts at the federal level to develop a Northeast Ocean Plan had been underway (Northeast Ocean Planning, 2019), with the plan adopted in 2016 to guide federal agency decisions in the region, and state ocean plans had been adopted in Massachusetts in 2009 (Massachusetts Office of CZM, 2019) and in Rhode Island (RI CRMC, 2019) in 2010.

The Bi-State Working Group was formed following a workshop convened by the Sea Grant programs in Connecticut and New York in 2010, and follow-up discussions about marine spatial planning, recognizing that, even in the absence of offshore energy proposals looming on the

horizon, Long Island Sound is an intensely utilized, ecologically important waterbody that needed and deserved its own marine spatial plan.

The Bi-State Working Group did much of the heavy lifting in providing the background work necessary to support Connecticut's legislative effort to establish the Blue Plan legislation, and fostered cooperation and coordination of the States of Connecticut and New York in addressing marine spatial planning for the Sound. Their seminal [Options for Developing Marine Spatial Planning in Long Island Sound: Sound Marine Planning Interim Framework Report](#) provides much of the justification for the Long Island Sound Blue Plan effort (Connecticut-New York Bi-State MSP Working Group, 2016). Public Act 15-66 was signed by Governor Dannel P. Malloy on June 19, 2015 and went into effect on July 1, 2015. The legislation received unanimous bipartisan support in the Connecticut General Assembly.

### **Blue Plan Advisory Committee Organizational Structure**

A 15-member multi-stakeholder Blue Plan Advisory Committee (BPAC) was established by statute to assist the Commissioner of the Department of Energy and Environmental Protection in developing the Inventory and the Blue Plan. BPAC members are designees of state agencies identified by the legislation, and representatives from water-dependent industries, the gas and electric distribution industry, non-governmental organizations, local governments, and recreation and aquaculture interests appointed by Governor Dannel Malloy and the legislative leadership. The BPAC in place during development of the plan (January 2016 through January 2019) consisted of:

- **Robert Klee**, Commissioner, Connecticut Department of Energy and Environmental Protection, Chairman
- **Sylvain De Guise**, Connecticut Sea Grant; UConn marine sciences programs faculty member appointed by Governor Malloy
- **Catherine Finneran**, Eversource; gas and electric distribution industry representative appointed by Governor Malloy
- **Nathan Frohling**, The Nature Conservancy; conservation organization representative appointed by Governor Malloy
- **David Carey**, Department of Agriculture Bureau of Aquaculture; shellfish industry/commercial or recreational aquaculture representative appointed by Governor Malloy
- **Christine Nelson**, Town of Old Saybrook Town Planner; coastal municipality representative appointed by Governor Malloy
- **Evan Matthews**, Connecticut Port Authority; Connecticut Department of Transportation Commissioner Redeker's Designee
- **Jason Bowsza**, Connecticut Department of Agriculture, Commissioner Reviczky's Designee
- **Eric Lindquist**, Connecticut Office of Policy and Management, Secretary Barnes' Designee
- **Melanie Bachman**, Connecticut Siting Council

- **Leah Schmalz**, Connecticut Fund for the Environment/Save the Sound; conservation organization representative appointed by State Senate President Pro Tempore Martin Looney
- **William Gardella**, General Manager and Dockmaster, Rex Marine Center, Norwalk; commercial boating representative appointed by State Senate Majority Leader Bob Duff
- **Bruce Beebe**, Beebe Dock and Mooring Systems, Madison; marine trades representative appointed by State Senate Minority Leader Len Fasano
- **Mike Theiler**, commercial finfish industry representative appointed by Speaker of the House Brendan Sharkey
- **Alicia Mozian**, Town of Westport Conservation Director; coastal municipality representative appointed by House Majority Leader Joe Aresimowicz
- **Sidney J. Holbrook**, recreational fishing/hunting community representative appointed by House Minority Leader Themis Klarides



**Blue Plan Advisory Committee Meeting in Old Saybrook, CT<sup>2</sup>**

At the earliest stage of the planning process, the BPAC established a draft Vision and Goals statement to help guide the planning effort. While the vision and goals are comprehensive, the overarching goal can be boiled down in to the LIS Blue Plan’s motto, *Sustainable Ecosystems - Compatible Uses*:

***Vision:*** “*Long Island Sound: a place where human uses and thriving marine life are compatible.*”

<sup>2</sup> Photo Credit: Middlesex Community College – Center for New Media Productions

*We envision a Long Island Sound where new and existing traditional uses are mutually compatible with the habitats and natural features needed for marine life to thrive, assuring the wellbeing and prosperity of current and future generations.*

**Goal 1: Healthy Long Island Sound Ecosystem**

*Science-based planning and practices that consider both the environment and human uses will help us understand and protect Long Island Sound ecosystems and the services they provide*

**Goal 2: Effective Decision-Making**

*An inclusive, transparent, stakeholder-endorsed and science-based Blue Plan decision-making process that is consistent with other plans and legal requirements will lead to decisions supporting the long-term vision for compatibility of human uses and thriving marine life.*

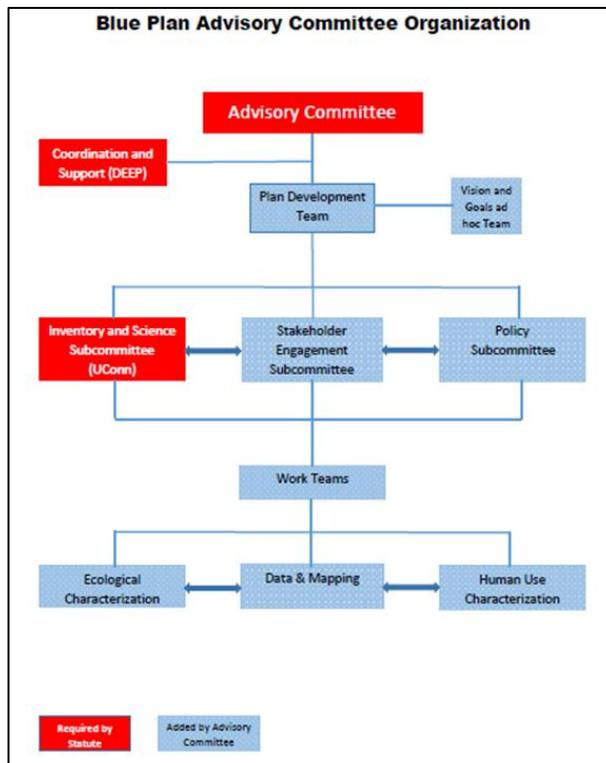
**Goal 3: Compatibility Among Past, Current, and Future Ocean Uses**

*Science-based planning and practices that consider both human uses and the environment will sustain traditional and facilitate compatible new water-dependent uses to enhance quality of life and compatible economic development including maintaining the ecosystem services they depend upon.*

Several objectives then flesh-out how the Blue Plan will meet each of these goals, and specific guiding principles were established for plan development, including

- *Meaningful public participation* so the plan reflects the knowledge, perspectives, and needs of all stakeholders whose lives are touched by Long Island Sound;
- *Sound science* in the form of accurate, relevant data and information to support planning and management of Long Island Sound resources and uses.
- *Transparent process* for plan development and implementation, utilizing multiple means to communicate with and seek input from all interested parties and ensuring adequate and informed representation of all stakeholders;
- *Government coordination and collaboration* among agencies and stakeholders based on a common vision, shared information sources, and transparent decision-making processes; and
- *Adaptive management* allowing for the planning and implementation process to be updated as traditional uses are better understood, new uses emerge, or as environmental, social, and economic conditions change.

During development of the Inventory and Blue Plan, the BPAC held quarterly meetings open to the public, and organized itself into six topic-related Subcommittees and Work Teams that conducted Inventory and Blue Plan work. Subcommittee membership was limited to Blue Plan Advisory Committee members, while membership of the Work Teams also included individuals from outside the Advisory Committee:



**Blue Plan Organizational Chart**

Subcommittees coordinated their activities through constant communications with other Subcommittees and with each Work Team. To assist in coordinating communication, DEEP staff and several Blue Plan Advisory Committee representatives were members of the Plan Development Team and every Subcommittee and Work Team.

Subcommittees served as the lead coordinating and managing entities, having responsibility for monitoring progress toward work plan deliverables and timelines through regular check-ins with individual Work Teams.

The Work Teams generated ideas and work products based on the work plans developed by the Subcommittees. Each Work Team was available to provide assistance and support to each Subcommittee as necessary (e.g., the Information and Mapping Work Team provided support and assistance to each of the three Subcommittees).

The BPAC will continue to function even after the Blue Plan is completed. Within six months of the Plan's approval by the Connecticut General Assembly, the BPAC must advise the Commissioner of DEEP on the operation, implementation, and updating of the Blue Plan and the Inventory, as applicable. The BPAC must also provide for the review and update of the Plan and the Inventory at least once every five years, and identify emerging issues and recommend any necessary or desirable alterations or improvements to the Plan and/or the Inventory. The BPAC is also required to hold at least one public hearing each year to receive comments and submissions from the public on the Plan and Inventory.

## **Elements of Blue Plan Development**

### *Stakeholder and Public Outreach*

The Blue Plan legislation requires that the Plan be developed by a transparent and inclusive process that includes widespread public and stakeholder participation and encourages public input in decision-making.

During the development of the Resource and Use Inventory, outreach focused on specific user-group communities, presenting relevant draft data products to them in webinars and meetings to review dataset validity for inclusion in spatial planning efforts. This sector-based approach was also maintained during the evaluation of draft Blue Plan policy, with a focus on walking each constituency through the policy document and hypothetical examples of how CT DEEP permitting review may proceed with a complete Blue Plan in place. Public information meetings and more formal Public Hearings were held at distinct phases in development to reach audiences that did not fall into particular sectors, and to offer formal opportunities to file comment.

All of these outreach opportunities provided invaluable insight to the PDT about the diverse concerns of the LIS user community. Public input has produced many improvements throughout the Plan document; some a change of a single key term, others an overhaul of an entire Inventory chapter. Several community members, in addition to those appointed to the Blue Plan Advisory Committee, have become key partners in connecting the PDT with their constituencies. This has allowed for candid conversation about Plan elements and capacities, and how to best represent sector interests.

In order to connect with various audiences, the PDT utilized a suite of tools and methods. First and foremost, the Stakeholder Engagement Subcommittee, described above, provided invaluable guidance on means and individuals to connect with in particular user groups. CT DEEP maintains a web page ([www.ct.gov/deep/lisblueplan](http://www.ct.gov/deep/lisblueplan)) hosting Blue Plan documents and development materials, as well as a listserv with over 400 members. In addition to the listserv, contact lists were developed for each use-sector; these were used to notify participants of relevant meeting events through phone and email.

In many cases partner organization's listservs and mailers were used to amplify Blue Plan listserv messages, forwarding these to their subscribed readerships. In some cases sector-relevant publications and other media were used to advertise for meetings and webinars. Moving into the final Public Comment phase, outreach sought to reach larger audiences using new tools such as a video interview series and municipality-based public forums to present the complete draft plan. Outreach events were held at times most convenient to the stakeholders and user groups.

The PDT made every effort to be inclusive of all views and knowledge contributed during the process, incorporating suggested changes and advise in all sections of the document. We believe that the document represents the shared vision for LIS, containing what we heard from participants.

However, it is important that those who use the Sound continue to be active in the curation of the

Blue Plan, and ensure that it remains an evolving collaborative tool to enhance all that we value in our urban sea.



**Blue Plan Stakeholder Engagement Meeting with the Connecticut Harbor Management Commission<sup>3</sup>**

### **Management Framework**

Like the Long Island Sound ecosystem itself, the Blue Plan as a management mechanism will not exist in isolation. A number of issues related to LIS spatial planning, such as water quality and habitat restoration, have already been addressed in some form by a number of federal, regional, state and local agencies and institutions. In both planning and regulatory realms, many existing LIS-related agencies and organizations referenced in this chapter continue to contribute to understanding and managing the Sound's resources and uses, and the Blue Plan is intended to coordinate with these efforts.

The aspects of the LIS management framework most significant to Blue Plan implementation are the existing regulatory programs required to consider Blue Plan policies as factors in making permitting decisions. These programs have been specifically designated by CGS § 25-157t(h), and will be supported and enhanced by Blue Plan policies that will provide up-front guidance and information on LIS resources and uses, and guide the decision making processes to help achieve the goals of the Blue Plan.

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<sup>3</sup> Photo Credit: Emily Hall

Perhaps the most fundamental legal or management principle underlying the Blue Plan is the public trust doctrine, through which the waters and submerged lands of Long Island Sound are owned by the states of Connecticut and New York in trust for the public. In addition to state ownership, an essential element of the public trust doctrine is that the state's submerged lands and waters are in trust for use by the general public. Subject to applicable regulations and permits, the general public may freely use these lands and waters, whether they are beach, rocky shore, or open water, for traditional public trust uses such as fishing, shellfishing, boating, sunbathing, or simply walking along the beach.

The status of Long Island Sound as state public trust waters has important implications for marine spatial planning, in that Connecticut and New York can manage their own waters and submerged lands more freely and with fewer constraints than they can regulate private property on land. The public trust doctrine offers an additional legal basis for the management and stewardship of Long Island Sound.

In addition to the Public Trust Doctrine and the regulatory programs which are charged with implementing the Blue Plan pursuant to CGS § 25-157t(h), other provisions for managing Long Island Sound include other advisory entities (e.g., Bi-State LIS Committee; LIS Advisory Councils, Assembly, and Foundation), Connecticut statewide plans (e.g., State Plan of Conservation and Development, Statewide Comprehensive Outdoor Recreation Plan, Wildlife Action Plan), local government regulatory programs (e.g., coastal management, harbor management), federal authorities in Long Island Sound (e.g., federal consistency provisions under coastal management authority), and interstate, regional, and federal partnerships (e.g., Long Island Sound Study, Long Island Sound National Estuarine Research Reserve, regional ocean planning partnerships, LIS Dredged Material Management Plan).

The Blue Plan statute also calls for the Blue Plan to be “coordinated, developed and implemented, to the maximum extent feasible, with the state of New York.” Apart from public outreach and stakeholder events, coordination with New York State in practical terms depends upon close cooperation with the two New York State agencies with primary responsibility for managing the New York waters of the Sound—the Department of State (DOS) and the Department of Environmental Conservation (DEC). Both agencies have designated representatives to the Blue Plan Advisory Committee and have monitored or participated in all stages of Blue Plan development.



**Public Users in Long Island Sound<sup>4</sup>**

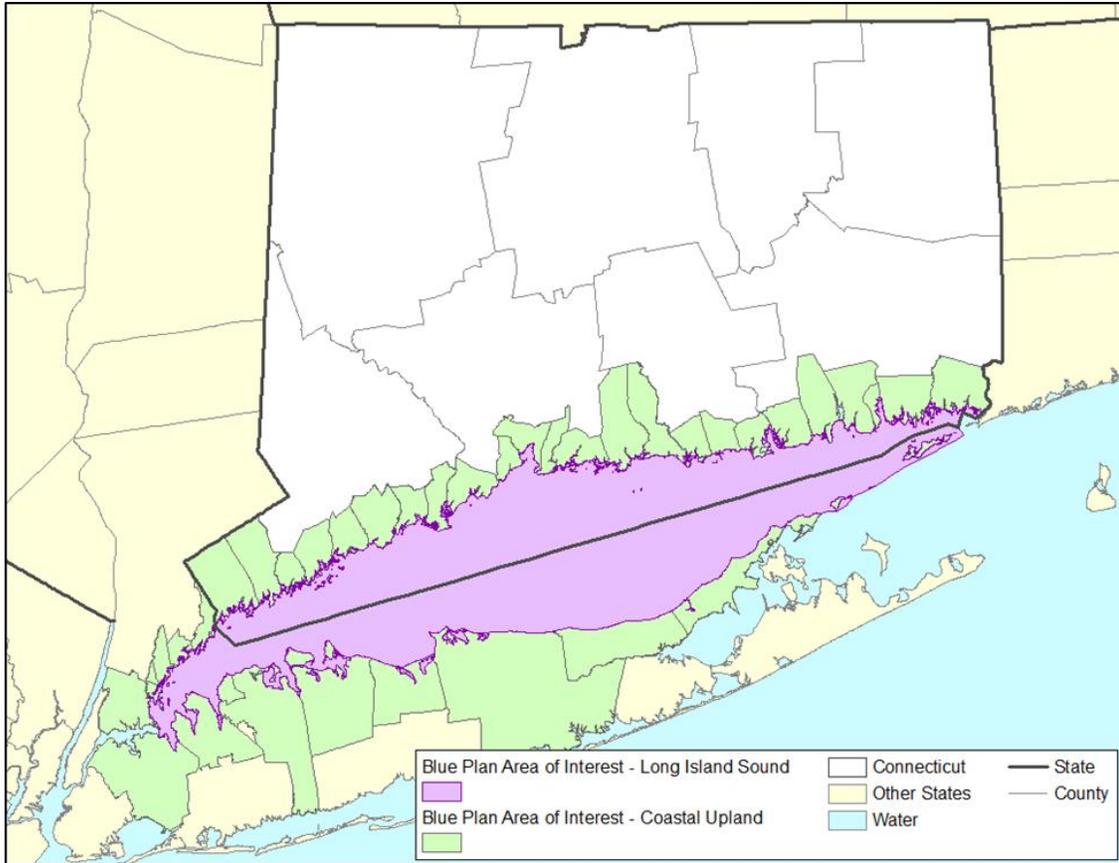
### **The Blue Plan in Long Island Sound**

#### ***Long Island Sound Areas Subject to the Blue Plan***

For Plan development and implementation purposes, the PDT identified two areas based on statutory language, one considered an “area of interest” and the other a “policy implementation area.” The “area of interest,” is more inclusive and comprehensive, allowing the planning team to consider nearshore areas at the mean high water line and, in some cases, upland areas materially connected in some way to offshore areas.

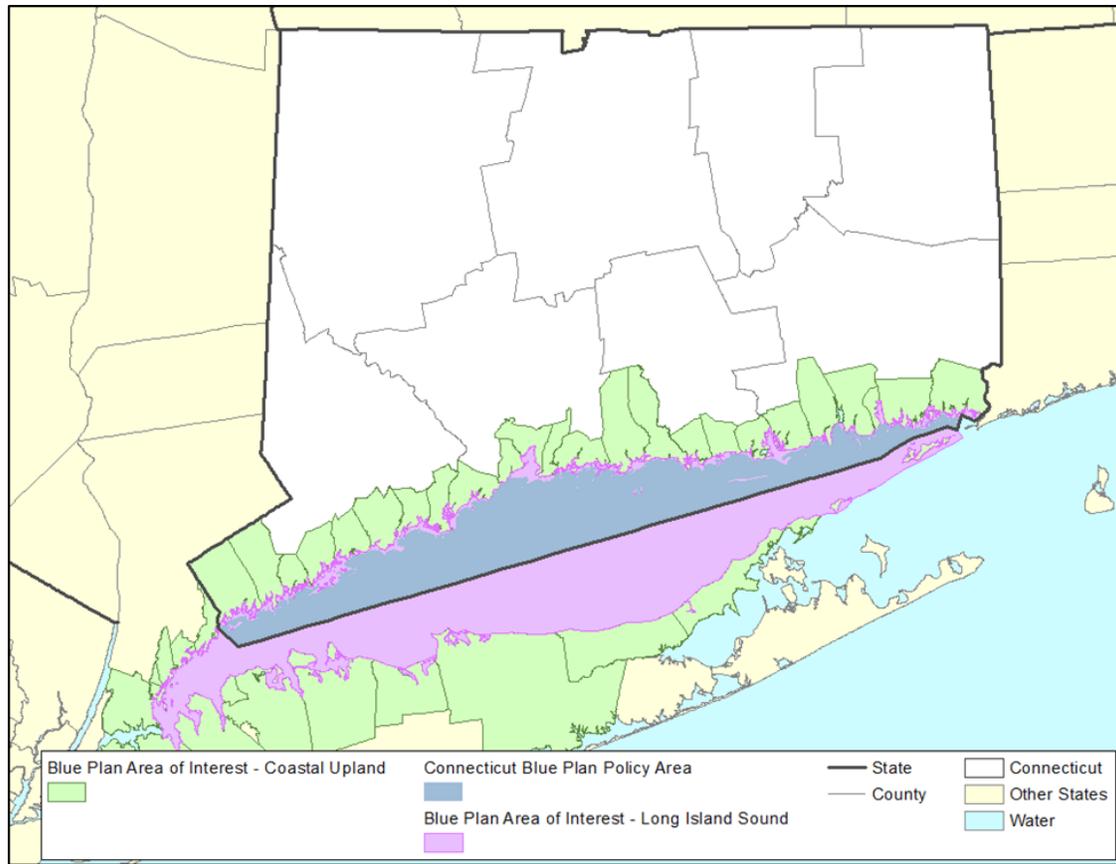
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<sup>4</sup> Photo Credit: Mary-beth Hart



**The complete extent of the Area of Interest**

The area within which Blue Plan policies and standards would apply is the area located “seaward of the bathymetric contour of minus ten feet NAVD to the state’s waterward boundaries with the states of New York and Rhode Island” [CGS § 25-157t(c)]. *Please see Chapter 3, Section 3.3 for maps and more details on how these areas are identified.*



**The extent of the Blue Plan Policy Area and Area of Interest**

### *Long Island Sound Resource and Use Inventory*

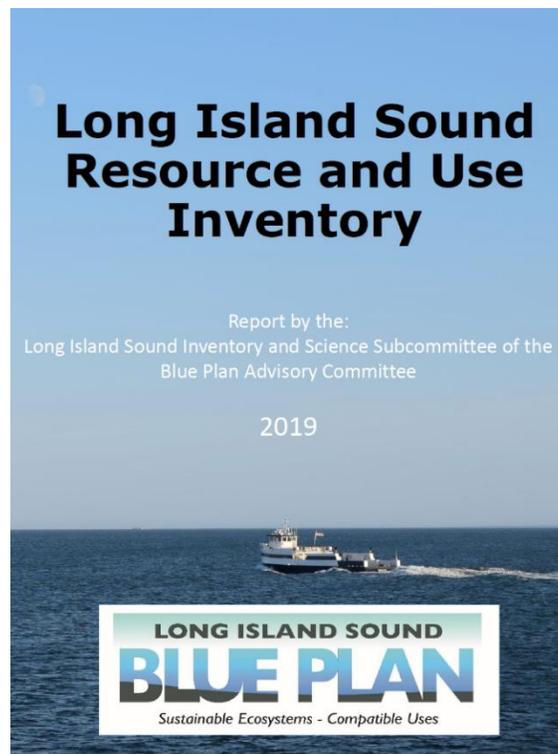
The first step in the Blue Plan development process was the compilation of the [Long Island Sound Resource and Use Inventory](#), overseen by the Inventory and Science Subcommittee chaired by the University of Connecticut. The Inventory provides a strong base of objective, science-based, and verifiable information on where different natural resources and human activities take place Sound, all of which helps inform decision-making. The Long Island Sound Resource and Use Inventory serves as the basis for developing the maps, policies, and standards that are contained in the Blue Plan to guide future uses of the Sound's waters and submerged lands, with the overall goals of identifying and protecting special, sensitive, or unique estuarine and marine life and habitats while also preserving and protecting traditional riparian and water-dependent uses and activities.

The Blue Plan statute requires that the Resource and Use Inventory “shall be comprised of the best available information and data regarding the natural resources within Long Island Sound and the uses of Long Island Sound,” an exercise that had to be performed “within existing resources,” that is, without additional state financial support to conduct new research.

In developing the Resource and Use Inventory, the subcommittee organized and grouped sectors identified in the Blue Plan statute, and mobilized sector-relevant members of the Blue Plan Advisory Committee and staff members to gather and review relevant information. Following an initial review of those datasets for technical quality, sector-specific experts and stakeholders were engaged in a review of associated map products for accuracy, representativeness, and relevance. Experts also helped identify significant data gaps, along with the existence of datasets not yet identified by the Blue Plan team that would help address such data gaps. In some cases, stakeholders and experts were directly engaged to summarize and integrate information and knowledge not previously available, or to complement existing information.

The result of this effort is a series of objective and extensively stakeholder- and expert- reviewed and endorsed geospatial information, summarized to the extent possible through a series of maps, along with an associated narrative, to “tell a story” about a given sector.

The Inventory is based on the best available information and data on the Sound's plants, animals, habitats, and ecologically significant areas in nearshore and offshore waters and their “substrates” (surfaces where marine organisms grow). The Inventory also identifies the human uses of Long Island Sound's waters and substrates, including but not limited to boating and fishing, waterfowl hunting, shellfishing, aquaculture, shipping corridors, and energy facilities. Because the Inventory is based on the best information available at the time it was compiled, it is recognized that the document is not perfect, and data gaps are identified in each chapter. As resources permit and new data becomes available, the Inventory will be updated on an ongoing basis.



**Long Island Sound Resource and Use Inventory Cover Page**

## *Designation of Ecologically Significant Areas and Significant Human Use Areas*

Human activities and natural resources occur throughout the Sound. The Blue Plan recognizes that Long Island Sound is unique as a whole—no single resource or use is more valuable than all others—and that maintaining a productive estuary is best for the species and people that depend on it. Certain places in the Sound, however, do stand out as having attributes that set them apart from similar areas, and should receive special recognition and protections. Without an effort to recognize those “special places,” there would be no way for a planning process to recognize areas of intense, unique, and special use or with characteristics of particular importance for natural resources.

In an effort to identify these special areas within the Sound, data from the Resource and Use Inventory was interpreted and analyzed to help select the most important natural resource and human use areas to help prioritize areas in the Blue Plan. These priority areas were designated as “Ecologically Significant Areas” (ESAs) and “Significant Human Use Areas” (SHUAs), areas upon which many Blue Plan policies are based.

ESAs are locations of unique environmental conditions or species concentrations. Most SHUAs are unique concentrations of a particular type of activity or activities, locations that support a large number of participants in that use. These areas support the livelihoods or recreation of many individuals, but most had no special protections prohibiting other uses from degrading their unique qualities.

In general, the term “*significant*” in the context of both ESAs and SHUAs is relative to the larger goal of sustaining the features and functions of the Long Island Sound ecosystem and the scope of existing human uses over time. The ESAs and SHUAs do not attempt to measure, calculate, or specify what level of damage or adverse impact would represent an unacceptable diminishment or undermining, whether from a single impact or cumulatively over time. The ESAs and SHUAs point to the elements that are considered important or significant for sustaining the LIS ecosystem and key human uses. These areas, by generally representing the highest levels, qualities, or other traits of LIS marine life and key human uses, identify places where adverse alteration is arguably more likely to result in tangible, identifiable, or measurable impacts, even if the full ramifications to the overall systems are not immediately known.

Both ESAs and SHUAs are important, more than any random location in the Sound, to particular species or communities and need to be recognized as such. The processes for identifying these important areas were different, but similar in that they are groundbreaking for Long Island Sound. The intent of both processes was not to prove that *all* of Long Island Sound is important for one reason or another. In fact, the effort was quite the opposite: to determine, of all of the vibrancy in the Sound, what places are truly unique and, therefore, truly worth establishing specific siting and performance standards for. A good understanding of the most important places to pay attention to helps preserve the Sound and its resources while enabling sustainable economic growth.

ESAs and SHUAs are spatial and represent the locations of ecological significance and locations of where we use the Sound. This means the ESAs and SHUAs are represented on maps,

distinguishing one geographic area from another. While ESAs and SHUAs are both depicted on maps, they are specifically defined by criteria that were developed to define them as objectively as possible. These criteria were based on assessing other similar criteria established for marine spatial plans in the Northeast (e.g., the Northeast Regional Ocean Plan, Massachusetts Ocean Plan, and Rhode Island Ocean Special Area Management Plan) along with considering the characteristics of Long Island Sound. They provide an ongoing basis and definition of what is meant by an ESA or SHUA, establishing a stable reference point so that differences in the extent and feasibility of data and/or changes in data over time, can be accounted for.

It is very important to note that *the criteria prevail over a given ESA or SHUA map*, in recognition of the potential shortcomings of data and associated maps and the dynamic nature of the Sound. The Blue Plan process has discovered, assembled, utilized, and integrated a remarkable extent of data and information about marine life, their ecosystem, and the myriad ways we use and rely on Long Island Sound. Many of the maps stem from current and complete information. Other maps depict high quality information but only where observations have been taken. Additionally, the Sound is a dynamic system and climate change is accelerating the rate of change. Data that we have at this time will not necessarily represent change that is inevitable.

ESAs and SHUAs represent an ambitious and thorough scientific effort to characterize the significant ecological and human use areas of the Sound and the results are credible on the basis of the information that we have now. However, there remains much we do not know and there is little doubt that other areas exist that we have not identified because we do not yet have the data and/or methods to reveal them.

Both the ESAs and SHUAs are directly connected to Blue Plan Policy. In some cases, there are not any siting or performance standards beyond general Blue Plan policies. In other cases, there are siting and performance standards associated with the specific ESAs and SHUA layers/criteria in addition to the general policy.

The ESAs and SHUAs are also relevant to both the Area of Interest and the Policy Area. Although Blue Plan policies will only apply within the Policy area, important places in the coastal zone were also included in the ESAs and SHUA. The decision to represent these places involved a desire to present a more holistic view of the Sound. For example, these places can provide connection to biological and ecological processes in the offshore environment. Coastal wetlands and submerged aquatic vegetation are prime examples. Similarly, activities in the Policy area may affect human uses outside of it; in-water structures may present a visual impediment to scenic resources as viewed from access points along the shore.

The Blue Plan statute PA 15-66 specifically requires that ESAs be established as part of the Blue Plan process to help carry-out official policy for the management of new uses in Long Island Sound. There was no similar specific provision for the identification of SHUAs in PA 15-66, but the Plan Development Team felt strongly that the human uses in Long Island Sound required a similar level of attention. The establishment of ESAs and SHUAs is unprecedented for Long Island Sound.

ESAs and SHUAs do not by themselves represent a full description of the Long Island Sound ecosystem or human uses. Rather, ESAs and SHUAs call attention to priority areas, the Sound’s overall ecological integrity and the ways in which people use the Sound remains important. By recognizing an area as an ESA or SHUA does NOT mean non-ESA or non-SHUA areas are unimportant. It is the full collection of interacting elements, features, and uses of Long Island Sound that allow it to be as ecologically and economically vital as it is. It is also this “full collection” that allow the many specific characteristics of the Sound to be recognized and appreciated. Blue Plan policy decisions will not only take into account the ESAs and SHUAs but will continue to address the need to protect Long Island Sound overall.

### ***Ecologically Significant Areas***

The Long Island Sound Ecologically Significant Areas are defined based on two specific criteria that represent the areas where these features exist (e.g., areas of coastal wetland) or the top 20% of the range and distribution of the feature (e.g. top 20% of seafloor complexity). In addition to being based on criteria used for other marine plans in the Northeast, these criteria, taken together, are meant to capture two major ecological considerations both of which are deemed essential for sustaining the features and function of the LIS ecosystem: (1) representation of the major and multiple marine life expressions in the Sound, particularly its species, natural communities, and habitats, and to capture the best of this broad spectrum. The approach includes attention to those species, communities, and habitats that are sensitive, vulnerable, and/or rare; and (2) capturing the habitats, communities, or places that embody or provide key ecological processes and roles that serve or support the healthy functioning of the Long Island Sound ecosystem.



**Example of an ESA – Boring Sponges can be found on Hard Bottom Habitat<sup>5</sup>**

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<sup>5</sup> Photo Credit: Long Island Sound Resource Center

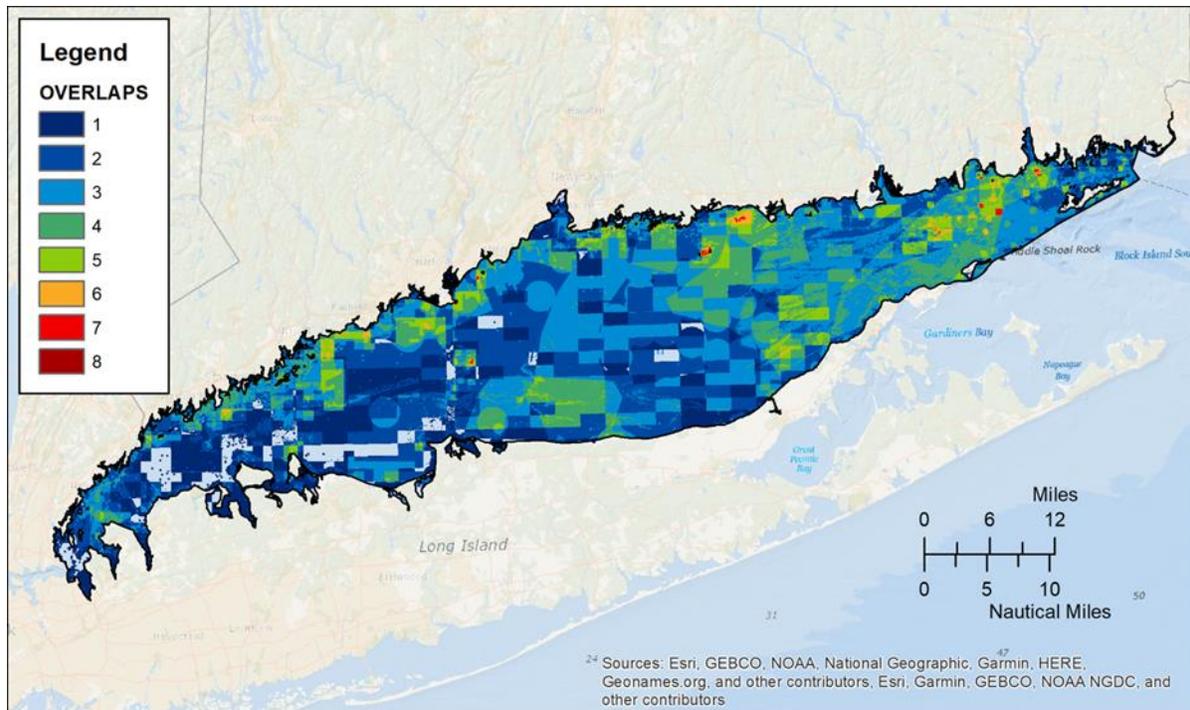
The following Ecologically Significant Areas have been established for the Blue Plan:

***Criteria Pillar 1: Areas with rare, sensitive, or vulnerable species, communities, or habitats including:***

<p>Hard bottom and complex sea floor</p>	<p>Areas of hard bottom are characterized by exposed bedrock or concentrations of boulder, cobble, pebble, gravel, or other similar hard substrate distinguished from surrounding sediments and provide a substrate for sensitive sessile suspension-feeding communities and associated biodiversity. Complex seafloor is a morphologically rugged seafloor characterized by high variability in neighboring bathymetry around a central point. Biogenic reefs and man-made structures, such as artificial reefs, wrecks, or other functionally equivalent structures, may provide additional suitable substrate for the development of hard bottom biological communities. Areas of hard bottom and complex seafloor are areas characterized singly or by any combination of hard seafloor, complex seafloor, artificial reefs, biogenic reefs, or wrecks and obstructions.</p>
<p>Areas of submerged aquatic vegetation</p>	<p>Areas where submerged aquatic vegetation, e.g., eelgrass (<i>Zostera marina</i>), etc., are present or have been found to be present.</p>
<p>Endangered, threatened, species of concern or candidate species listed under state or federal ESA, and their habitats</p>	<p>The species listed by federal or state statutes (e.g., the US Endangered Species Act, the CT Endangered Species Act, the NY Endangered Species Act) as endangered, threatened, species of concern, or candidates for listing, and their associated habitats, recognizing that detailed spatial data depicting the distribution and abundance for these marine species in Long Island Sound are potentially unavailable.</p>
<p>Areas of cold water corals</p>	<p>Areas where cold-water corals have been observed or where habitat suitability or other scientific models predict they occur.</p>
<p>Coastal wetlands</p>	<p>According to Connecticut General Statutes (CGS) § 22a-29: “Those areas which border on or lie beneath tidal waters, such as, but not limited to banks, bogs, salt marshes, swamps, meadows, flats, or other low lands subject to tidal action, including those areas now or formerly connected to tidal waters, and whose surface is at or below an elevation of one foot above local extreme high water; and upon which may grow or be capable of growing some, but not necessarily all, of [a list of specific plant species found in CGS section 22a-29(2)].” Long Island Sound Blue Plan policies do not apply to areas landward of the Policy Area, and therefore, while considered Ecologically Significant Areas, Coastal Wetlands and any associated existing statutes or policies relevant to Coastal Wetlands are not within the scope of the Long Island Sound Blue Plan.</p>

***Criteria Pillar 2: Areas of high natural productivity, biological persistence, diversity, and abundance, including areas important for supporting or exhibiting such features relative to the following characteristics or species:***

Cetaceans (marine mammals)	Areas where cetaceans occur in higher concentrations and/or particular significant areas as noted in the general description (above) that support cetaceans (e.g., particular feeding areas, nursery grounds).
Pinnipeds (seals)	Areas where pinnipeds occur in higher concentrations and/or particular significant areas as noted in the general description (above) that support pinnipeds (e.g., particular haul-out locations, feeding areas).
Sea turtles and other reptiles	Areas where sea turtles and other reptiles occur in higher concentrations and/or particular significant areas as noted in the general description (above) that support sea turtles and other reptiles (e.g., particular feeding areas, nesting grounds, hibernation areas).
Birds	Areas where birds are abundant or diverse including feeding areas; areas of high bird productivity including nesting areas.
Fish	Areas of high weighted fish persistence and high fish abundance and concentration.
Mobile invertebrates (e.g., American lobster)	Areas of high mobile invertebrate (e.g., lobster, other crustaceans, squid) abundance and concentration.
Sessile-mollusk-dominated communities (e.g., blue mussels)	Areas where wild, natural sessile mollusk-dominated communities occur.
Managed shellfish beds	Locations of commercial and recreational shellfishing harvest areas, including shellfish restoration activities and areas closed to shellfishing.
Soft-bottom benthic communities	Areas of soft-bottom seafloor communities where natural productivity, biological persistence, diversity, and/or abundance of marine flora and fauna are high, as well as areas of soft-bottom seafloor communities known to support important life history or important ecological functions of mobile species (e.g., migratory stopovers and corridors, feeding areas, and nursery grounds).



A “roll-up” map for all ESAs together.

### Significant Human Use Areas

As a corollary to the statutorily mandated designation of Ecologically Significant Areas, the Blue Plan Development Team (PDT) decided to identify Significant Human Use Areas (SHUA) for policy considerations.

The first step in identifying SHUAs was to determine what activities or locations needed to be recognized as such. While the majority of these are in-water activities such as fishing and boating, the PDT felt it was necessary to include some landside features such as working waterfront infrastructure, parks, and historic artifact discovery locations. New in-water projects may impact these upland sites either directly (e.g., horizontal drilling and grid link associated with a cable) or by simple proximity (scenic view degradation), so project proponents should be aware of all uses they may impact.

Through the Resource and Use Inventory data vetting process, the PDT connected with user communities in the Sound and determined what types of activities and areas are of particular concern to each constituency. Initially the PDT identified over 50 specific use criteria (e.g., Connecticut State Managed aquaculture beds, boat launches, recreational fishing areas) across 12 broadly defined activity types (e.g., aquaculture, boating, fishing), and conducted an assessment process to identify and organize the most appropriate representations of human use data and develop descriptions for them.

It is these descriptive criteria that matter the most to the Blue Plan policy. Maps are the backbone of any spatial-planning exercise, as they are incredibly useful visual tools for communicating place-based information. But they can only be based on existing data, which may

become out-of-date or change. A written definition of each use can exist without any spatial data, and can more easily shift to match future conditions.

As with the establishment of Ecologically Significant Areas, the PDT determined it was desirable to create overarching criteria to pull similar uses together. Four categories were defined to group SHUAs together in a way that integrates information between sectors so that they may be more easily interpreted and visualized, both digitally and in hardcopy.



**Example of a SHUA – Peck Ledge Lighthouse<sup>6</sup>**

The following Significant Human Use Areas have been established for the Blue Plan:

***Criteria Pillar 3: Areas with features of historical, cultural, educational, or research significance***

Areas associated with lighthouses and other historic areas	Lighthouses, waterfront historic districts, or in-water structures of historical significance, excluding wrecks, and areas of Long Island Sound immediately adjacent to such resources.
Shipwrecks	Wrecks of historical or cultural significance.
Visual and Scenic Resources	Views of Long Island Sound’s scenic resources from publicly accessible coastal land.
Submerged and Coastal Archaeological Areas	Submerged or coastal locations of archaeological sensitivity and/or significance.
Areas of Tribal Significance	Submerged or coastal locations recognized by Tribes as having historical or cultural significance.

<sup>6</sup> Photo Credit: Christian Fox

Discrete Areas for Research, Education, and Monitoring	Areas actively and consistently used for research activities, including but not limited to long term monitoring sites, and Sound-dependent experiential educational programming.
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***Criteria Pillar 4: Areas of substantial recreational and/or “quality of life” value***

Sailing or Rowing Races	Areas consistently used by organized clubs and associations. Including but not limited to racing and training areas, and long-distance sailing race routes.
Marine Events	Recurring marine events including those described in 33 CFR 100.100 Table.
High Activity Recreational Boating Areas	Approximate areas where the density of recreational boating is substantially higher than the overall mean for LIS.
Mooring Fields and Anchorage Areas	Formally designated or traditional mooring fields and anchorages, as designated or managed by NOAA, municipal Harbor Management, or other organizations.
Marinas, Yacht Clubs, and Boat Launches	Locations of marinas, yacht clubs, and boat launches that are within the Blue Plan Area of Interest.
Waterfowl Hunting Areas	Areas in Long Island Sound important for waterfowl hunting, including sea duck habitat.
Dive Sites	Locations in Long Island Sound important for SCUBA activities.
Coastal Public Use Areas	Areas important for public access and use of Long Island Sound for recreational activities including but not limited to swimming, paddling, and wildlife watching.

***Criteria Pillar 5: Areas important for navigation, transportation, infrastructure, and economic activity***

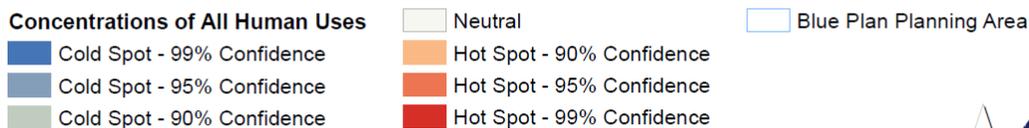
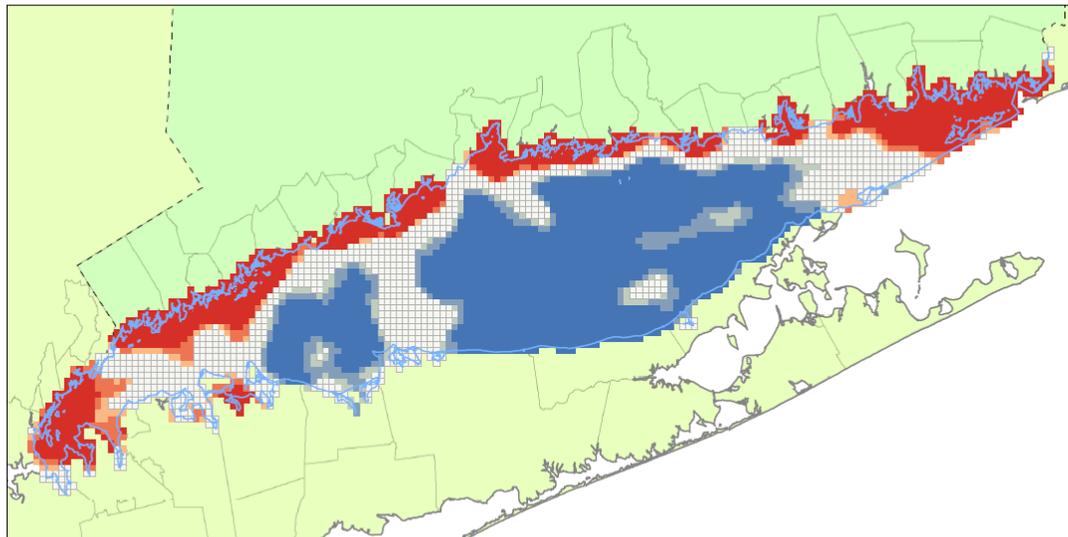
Working Waterfronts, Ports, and Marine Commercial Areas	Commercial facilities that are water-dependent, or service water-dependent uses on Long Island Sound, including but not limited to onshore and offshore terminals and port facilities.
Designated Navigational Channels, Fairways, and Basins	Designated and maintained navigational channels as they appear on the NOAA-published charts and USACE management plans. Also includes authorized privately maintained navigational channels, fairways, and basins, excluding facilities for individual residential use.
Designated Anchorage Areas	Anchorage areas as they appear on the NOAA charts, and are generally used by commercial vessels.

Security Zones and other Designated Areas	Security zones and other operational zones, as designated by the Coast Guard or other appropriate authority.
Areas of Lightering Activity	Areas designated by the Coast Guard for ship-to-ship transfer (lightering), and other areas regularly used for such transfers.
Vessel Traffic Areas	Areas of high traffic use by vessels with AIS transponders including but not limited to ferries and commercial ships. High traffic use is defined by areas that exceed the mean value of transit counts.
Dredged Material Disposal Areas (Active and Historic)	Material disposal sites as they appear on the NOAA charts, in the LIS DMMP, or designated by EPA. Includes areas currently and historically used. Also includes confined aquatic disposal (CAD) cells.
Cables, Pipelines, and Cable/Pipeline Areas	Submerged cable and pipeline infrastructure areas, including but not limited to those indicated on NOAA navigational charts.
Coastal Energy Generating and Transmission Facilities	Coastal energy generating and transmission facilities and associated infrastructure, including areas of Long Island Sound adjacent thereto.

***Criteria Pillar 6: Areas important to Fishing and Aquaculture***

Recreational Fishing	Areas significant for recreational fishing, as identified by DEEP Fisheries and the recreational fishing community of Long Island Sound.
Commercial Fishing	Areas of substantial value to the commercial fishing community in Long Island Sound.
Charter and Party Boat Fishing	Areas of substantial value to the charter and party boat industry in Long Island Sound.
Recreational Shellfish Areas	Town and/or state managed recreational shellfishing areas.
Commercial Aquaculture Locations	Shellfish leases, seaweed leases, gear areas, designated natural beds, and any other type of authorized aquaculture venture in CT and NY as applicable.

**Draft Significant Human Use Area Map:  
Concentrations of All Human Uses**



0 5 10 20 Miles



Map created by Connecticut Department of Energy & Environmental Protection: 1/17/2019

**Final concentrations (Hot Spots) of all Significant Human Uses in Long Island Sound**

**Blue Plan Policies and Standards**

Blue Plan Policies are established to identify areas and standards that avoid conflicts and impacts, and encourage sustainable and compatible development. In general, proposed uses and activities subject to the Long Island Sound Blue Plan are not prohibited outright. Rather, project proponents are encouraged to develop their applications to avoid, minimize, and mitigate conflicts and impacts on Long Island Sound’s natural resources and traditional human uses.

*Part I: Sound-Wide Policies*

Sound-wide policies are the highest level policies contained in the Long Island Sound Blue Plan, as they are intended to apply everywhere in the Sound. This section includes a list of broad policies and criteria for the applicable regulatory programs, incorporating the statutory policy criteria of CGS §25-157t(b)(2) as integrated through the [Vision & Goals Statement](#).

## Goal 1: Healthy Long Island Sound Ecosystem

Science-based planning and practices that consider both the environment and human uses will help us understand and protect Long Island Sound ecosystems and the services they provide, now (a.) and in the future (b.):

### **Policies:**

- a. Any activity proposed within the Blue Plan policy area shall avoid, minimize, and mitigate<sup>7</sup> adverse impacts to natural resources in general, including ecosystem services and water quality, and Ecologically Significant Areas in particular, pursuant to CGS §25-157t(h).
- b. Any activity proposed within the Blue Plan policy area shall consider the future effects of climate change, including but not limited to water quality impacts, changes in species composition, and sea level rise, in accordance with scenarios established pursuant to CGS §25-68o as amended by PA 18-82; and pursuant to CGS §25-157t(h).

## Goal 2: Effective Decision-Making

An inclusive, transparent, stakeholder-endorsed and science-based Blue Plan decision-making process that is consistent with other plans and legal requirements will lead to decisions supporting the long-term vision for compatibility of human uses and thriving marine life.

### **Policies:**

- a. The Blue Plan “shall establish the state’s goals, siting priorities and standards for ensuring effective stewardship of the waters of Long Island Sound held in trust for the benefit of the public.”(CGS §25-157t(b)).
- b. The Inventory, Blue Plan, and policies, including the maps, data, and descriptions therein, are meant to provide guidance and direction to project proponents/applicants, regulators, and the general public on how the state is to interpret and implement its existing authority including permit and decision- making responsibilities pursuant to CGS §25-157t(h).
- c. Any proposed regulated activities shall provide site-specific information necessary to evaluate consistency of the activities with existing regulatory criteria, as may be further informed by Blue Plan policies. Blue Plan policies do not approve or prohibit any specific regulated activity, nor do they pre- determine the outcome of any individual regulatory process.

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<sup>7</sup> When applied to policies in chapter four, use of the term “avoid” shall include the minimization of unavoidable adverse impacts and the mitigation of remaining minimized impacts.

### Goal 3: Compatibility among Past, Current, and Future Ocean Uses

Science-based planning and practices that consider both human uses and the environment will sustain traditional and facilitate compatible new water-dependent uses to enhance quality of life and compatible economic development, including maintaining the ecosystem services they depend upon.

#### **Policies:**

- a. The Blue Plan recognizes that Long Island Sound belongs to the people of Connecticut and New York, and its waters and submerged lands are held in Public Trust<sup>8</sup> by those States for the people. Management of the Sound shall use spatial planning for the benefit of the general public, and the pursuit of traditional public trust uses including but not limited to aquaculture, fishing, recreation, and navigation.

The surface and air, water column, and benthos and substrate of the Blue Plan policy area shall be left as open and unrestricted as possible. New uses of the policy area shall neither unreasonably impair multiple use areas nor unreasonably restrict public access, except where necessary for resource protection, public health and safety, national security, or short-term construction activities.

Permanent physical or visual obstructions or encroachments shall not be allowed unless necessary for water-dependent uses, resource protection or enhancement, public health and safety, or national security, or providing a substantial public benefit. For the purposes of this policy “public benefit” means a material positive impact to the well-being of the Long Island Sound ecosystem, economy or the general public, as opposed to any particular benefits to individual firms or economic actors. Public benefit shall include facilities in the national interest defined by CGS § 22a-93(14), and facilities in support of the State’s [Comprehensive Energy Strategy](#), required by CGS § 16a-3d(a), and modified by PA 18-82 to become a Comprehensive Climate and Energy Strategy by 2020 (CT DEEP, 2018), and the [State Plan of Conservation and Development](#), CGS § 16a-27 through 16a-30 (Office of Policy and Management, 2005-2010).

- i. Any activity proposed within the Blue Plan policy area shall avoid, minimize, and mitigate conflicts with traditional public trust uses, including Significant Human Use Areas, pursuant to CGS § 25-157t(h).
- ii. Structures regulated pursuant to the programs listed in Section 23-157t(h) shall be minimized to the extent practicable in physical scope and visual profile.
- iii. New non-water-dependent uses, including industrial, commercial, or residential uses, shall not be placed within the Blue Plan policy area unless:

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<sup>8</sup> A more extensive summary of Public Trust can be found in Section 2.2.

- a. There are no significant adverse impacts to natural resources, including ecosystem services and water quality, and to existing human uses; and
    - b. There is a substantial public benefit that outweighs occupation of public trust lands and waters and any unmitigated adverse impacts; and
    - c. There is no feasible<sup>9</sup> and less environmentally damaging land-based alternative to the proposed use.
  - iv. Artificially created or enhanced habitats, such as artificial reefs, islands constructed of dredged material, or barges used for seabird nesting shall not be authorized unless:
    - a. significant adverse impacts to existing resources are avoided, minimized, and mitigated, and
    - b. resource and use benefits outweigh remaining adverse impacts, and
    - c. the primary purpose provides a public benefit.
  - v. New permanent cross-Sound transportation infrastructure (e.g., bridges and tunnels) shall be avoided except in cases of significant public benefit where adverse impacts, including visual, have been minimized and mitigated to the maximum extent practicable.
  - vi. Structures intended for flood and storm protection (e.g., tidal barriers and flood walls) shall be avoided except in cases of significant public benefit and where adverse impacts, including but not limited to changes to the Sound's tidal processes and water quality, have been minimized and mitigated to the maximum extent practicable.
- b. A prominent and characteristic visual feature of Long Island Sound is the unobstructed views from shore to shore; in Connecticut, across to Long Island and Fishers Island, and to the smaller islands and lighthouses which serve as visual points of reference for the public. Within this landscape, visual attributes associated with traditional water-dependent uses, such as vessels, moorings, or buoys, are additional visual points of reference. Accordingly, no new proposed regulated activity may be allowed within the Blue Plan policy area that creates a significant permanent effect on landscape-scale vistas from public viewing points of state or regional significance, such as state parks or prominent viewing areas. Municipal authorities are encouraged to implement Connecticut

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<sup>9</sup> Feasible uses the same definition as CGS § 22a-38(17).

Coastal Management Act policies to identify and protect coastal and inshore visual resources that are visible at the local or neighborhood level.<sup>10</sup>

- i. Artificial illumination shall be kept to the minimum necessary for the functioning of a water-dependent use, except for temporary exhibitions such as fireworks displays and as legally required for public health and safety.
- ii. Applicants for visible in-water or on-water activities are required to provide a visual impact analysis, including day and night digital simulations of different development scenarios, in cases where the regulatory agency administering the programs listed in CGS § 25-157t(h) determines such analyses are necessary to review the potential visual impact of a regulated activity.

### *Part II: ESA and SHUA Policies*

The Blue Plan identifies a series of Ecologically Significant Areas (ESAs) and Significant Human Use Areas (SHUAs) in Long Island Sound. This section is comprised of policies that aim to protect the value of ESAs and SHUAs and is separated into two parts where more specific siting and performance standards are written based on ecological or human use category.

#### **General Policies Applicable to All ESAs and SHUAs:**

1. New activities within the Blue Plan policy area shall, to the extent practicable, maintain the capability of the Sound's natural resources to support current and new multiple uses and the natural environment of the Sound.
2. In general, new activities in the Blue Plan policy area of Long Island Sound shall, to the extent practicable, maintain, preserve, or enhance the values of an ESA and/or SHUA. A proposed activity may be located within or affect an ESA and/or SHUA provided that it has been demonstrated, through site-specific data and analysis submitted pursuant to the applicable regulatory program under CGS § 25- 157t(h) that:
  - a. The project will cause no significant adverse impacts to the ESA and/or SHUA pursuant to the Ecologically Significant Areas siting and performance standards in Part IIa and the Significant Human Use Areas siting and performance standards in Part IIb, or
  - b. There is no feasible, less damaging alternative and all reasonable mitigation measures and techniques have been provided to minimize adverse impact, and

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<sup>10</sup> Refer to the [Visual Impact Factsheet](#) in the Connecticut Coastal Management Manual (CT DEEP, 2000).

the public benefits of the project outweigh the harm to the ESA and/or SHUA resource, use, or value.

3. Each SHUA and ESA sub-criterion will have a map or a group of maps associated with it that will designate the best available information on the current extent of that resource or use. These maps are not enforceable standards, because the best known current extent will likely change over time with new information. The maps are meant to assist state and local governments, applicants, stakeholders, and the public by showing current SHUA and ESA locations. The ESA and SHUA policies and protection standards are applicable pursuant to the most up-to-date extent of the ESA and SHUA, even if this extent may not yet be represented in the current maps.
  - a. Some ESAs and SHUAs are located outside the policy area, i.e., landward of the policy area up to the coastal boundary as defined by CGS §22a-94(b). Policies associated with such ESAs and SHUAs may only be applied to regulated activities within the policy area.

*Part IIa: Siting and Performance Standards for ESAs*

This section describes the siting and performance standards applicable to each ESA criteria, based on the location of potential impact either in Air and Surface (AS), Water Column (WC), and Benthos & Substrate (BS). The General ESA and SHUA policies also apply to all the following siting and performance standards.

<b><i>ESA Siting and Performance Standards</i></b>			
<b>Significant Ecological Resource Criteria</b>	<b>Air and Surface (AS)</b>	<b>Water Column (WC)</b>	<b>Benthos &amp; Substrate (BS)</b>
<i>1. Areas with rare, sensitive, or vulnerable species, communities, or habitats</i>			
1.1. Hard bottom and complex sea floor	No specific standards applicable. General policies apply.	No alteration, including changes in sedimentation or turbidity that would significantly adversely impact ecological characteristics and function.	No alteration that would significantly adversely impact ecological characteristics and function.

1.2. Areas of submerged aquatic vegetation	No structures or activities that would substantially shade or otherwise adversely impact growth.	No alteration, including physical impacts or changes in sedimentation or turbidity that would significantly adversely impact vegetation.	No bottom disturbance to existing vegetation. Protection and enhancement activities are encouraged pursuant to 22a - 92(c)(2)(A).
1.3. Endangered, threatened, species of concern, and candidate species listed under state and federal Endangered Species Act and their habitats	No specific standards applicable. General policies apply. Comply with applicable state and federal policies to avoid adverse impacts to designated species and habitats.		
1.4. Areas of cold water corals	No specific standards applicable. General policies apply.	No alteration, including changes in sedimentation, turbidity, or acidity that would significantly adversely impact corals.	No bottom disturbance to existing corals.
1.5. Coastal Wetlands	Blue Plan policies will not directly apply to coastal wetlands since these resources by definition are found in the intertidal zone outside the policy area. Therefore please refer to the Connecticut Tidal Wetlands Act [CGS § 22a-28 as referenced by CGS §§ 22a-92(a)(2), 22a-92(b)(2)(E), 22a-92(c)(1)(B), and 22a-92(b)(1)(B)] and the Connecticut Coastal Management Act [CGS §§ 22a-93(15)(H) and 22a-93(15) (G)] for appropriate policies and standards.		
<b>Significant Ecological Resource Criteria</b>	<b>Air &amp; Surface (AS)</b>	<b>Water Column (WC)</b>	<b>Benthos &amp; Substrate (BS)</b>
2. <i>Areas of high natural productivity (HNP), biological persistence, diversity, and abundance, including areas important for supporting or exhibiting such features, relative to these characteristics or species:</i> <sup>11</sup>			
2.1. Cetaceans	No specific standards applicable. General policies apply. Comply with Marine Mammal Protection Act and other applicable federal law.		

<sup>11</sup> Areas where natural productivity, biological persistence, diversity, and abundance are high, as well as migratory sanctuaries, stopovers and corridors, nesting areas, feeding areas, and nursery grounds for cetaceans, pinnipeds, sea turtles, marine birds, fish, mobile invertebrates, sessile-mollusk-dominated communities, managed shellfish beds, and soft-bottom benthic communities.

2.2. Pinnipeds	No activities that would significantly or permanently impair use of an area by these species. Comply with Marine Mammal Protection Act and other applicable federal law.	
2.3. Sea Turtles and other Reptiles	No specific standards applicable. General policies apply. Comply with Endangered Species Act and other applicable federal law.	
2.4. Birds	No activities that would significantly adversely impact diversity or abundance of species, including but not limited to interference with migratory patterns or foraging, in these areas. Comply with Migratory Bird Treaty Act and other applicable federal law	
2.5. Fish	No activities that would significantly adversely impact diversity, persistence, or abundance of species in these areas. Comply with Endangered Species Act and other applicable federal law.	
2.6. Mobile Invertebrates	No specific standards applicable. General policies apply.	
2.7. Sessile-mollusk dominated communities	No specific standards applicable. General policies apply.	No activities that would significantly adversely impact diversity, persistence, or abundance of species in these areas.
2.8. Managed Shellfish Beds	No specific standards applicable. General policies apply.	No activities that would significantly adversely impact ecosystem services of managed shellfish beds, except for those activities related to such shellfish management.
2.9. Soft-bottom benthic communities	No specific standards applicable. General policies apply.	

*Part IIb: Siting and Performance Standards for SHUAs*

This section describes the siting and performance standards applicable to the SHUA criteria, based on the location of potential impact either in Air and Surface (AS), Water Column (WC), and Benthos & Substrate (BS). The General ESA and SHUA policies also apply to all the following siting and performance standards.

***SHUA Siting and Performance Standards***

Significant Human Use Criteria	Air and Surface (AS)	Water Column (WC)	Benthos & Substrate (BS)
3. <i>Areas with features of historical, cultural, or educational significance</i>			

3.1. Areas associated with lighthouses and other offshore historic buildings	No activity that would significantly restrict physical or visual access to the site.	No specific standards applicable. General policies apply.	
3.2. Shipwrecks	No permanent fixed or floating structures that affect the shipwreck site or access to it. Site marker buoys may be allowed.	No permanent fixed or floating structures that may affect the shipwreck site or access to it.	No bottom disturbance, including deposition or shifting of sediments.
3.3. Areas of historical or cultural significance, submerged archaeological sites, and submerged areas of archeological sensitivity	No permanent fixed or floating structures that adversely affect submerged historical or cultural resources. Site marker buoys may be allowed.	No permanent fixed or floating structures that adversely affect submerged historical or cultural resources.	No bottom disturbance that would adversely affect submerged historical or coastal resources.
3.4. Discrete areas important for research, education, and monitoring	No activity that would significantly adversely affect the use of the area for such purposes.		
<b>Significant Human Use Criteria</b>	<b>Air and Surface (AS)</b>	<b>Water Column (WC)</b>	<b>Benthos &amp; Substrate (BS)</b>
4. Areas of substantial recreational and/or “quality of life” value			
4.1. Sailing and Rowing Races	No fixed or floating structures that would unreasonably interfere with racing activity during the season.	No activity that would unreasonably interfere with racing activity during the season.	
4.2. Marine Events	General policies apply. Consult with event organizers to avoid or minimize conflict.		
4.3. High Activity Recreational Boating Areas	No fixed or floating structures that would significantly interfere with	No activity that would significantly interfere with vessel traffic or impair safety.	

	vessel traffic or impair safety.		
4.4. Mooring and Anchorage Areas	No fixed or floating structures that would significantly interfere with vessels or vessel traffic.	No activity that would significantly interfere with vessels or vessel traffic.	No activity that would significantly interfere with vessels or the placement of mooring tackle.
4.5. Marinas, Boat Launches, and Yacht Clubs	No fixed or floating structures that would unreasonably interfere with authorized facilities and associated boating activities, including access to and maintenance of navigational channels and marina infrastructure.	No activity that would unreasonably interfere with authorized facilities and associated boating activities, including access to and maintenance of navigational channels and marina infrastructure.	
4.6. Waterfowl Hunting	No fixed or floating structures that would unreasonably interfere with seasonal hunting activity or waterfowl habitat.	No specific standards applicable. General policies apply.	
4.7. Dive Sites	No permanent fixed or floating structures that adversely affect submerged historical or cultural resources, or unreasonably restrict divers. Site marker buoys may be allowed.	No in-water activities or structures that unreasonably interfere with diver access.	No bottom disturbance that would unreasonably adversely affect submerged historical or cultural resources, including deposition or shifting of sediments.

4.8. Coastal Public Use Areas	No structures or activities that would significantly interfere with coastal public use activities.		
Significant Human Use Criteria	Air and Surface (AS)	Water Column (WC)	Benthos & Substrate (BS)
5. Areas important for navigation, transportation, military, infrastructure, and economic activities			
5.1. Working Waterfronts	No activities, or permanent fixed or floating structures that would significantly interfere with maritime and water-dependent activities, including access to navigational channels and infrastructure.	No activities, or permanent fixed structures that would significantly interfere with maritime and water-dependent activities, including navigational channels and infrastructure.	No on-bottom structures or disturbance that would significantly interfere with operations, including access to and maintenance of navigational channels and infrastructure.
5.2. Designated Navigation Channels	No permanent fixed or floating structures that significantly interfere with navigation or channel maintenance.	No permanent structures that would significantly interfere with navigation or channel maintenance.	No permanent bottom or sub-bottom structures that significantly interfere with navigation or channel maintenance. Potentially appropriate to co-locate cables, pipelines, and other uses that may require bottom disturbance during installation, given the need for periodic dredging.
5.3. Commercial anchorage areas, security zones, and other designated areas	Activities shall be consistent with the existing Federal regulations for that designated area.		

5.4. Areas of Lightering Activity	Activity shall comply with applicable Coast Guard and other regulations. No potentially conflicting activity during lightering operations.	No specific standards applicable. General policies apply.	
5.5. Vessel Traffic Areas	No activity or permanent fixed or floating structures that significantly interfere with vessel traffic and navigation, including maneuvering.	No activity or permanent structure that would significantly interfere with navigation.	No specific standards applicable. General policies apply.
5.6. Dredged Material Disposal Areas: Active	No activity or permanent structures that interfere with disposal operations.		No excavation. No bottom disturbance, except as incidental to disposal operations, scientific activities, or remediation activities.
5.7. Dredged Material Disposal Areas: Historic/Closed	No specific standards applicable. General policies apply.		No excavation. No bottom disturbance, except for scientific or remediation activities.
5.8. Cables, pipelines, and cable/pipeline areas	No specific standards applicable. General policies apply.		No activities that would significantly disturb existing cables and pipelines, except that new facilities may be co-located within corridors, as appropriate to avoid impact to adjacent areas.

5.9. Coastal Energy Generating and Transmission Facilities	No activities that would interfere with facility operation or access.		No on-bottom structures or disturbance that would interfere with operations, including access to the facility by cables or pipelines.
<b>Significant Human Use Criteria</b>	<b>Air and Surface (AS)</b>	<b>Water Column (WC)</b>	<b>Benthos &amp; Substrate (BS)</b>
6. <i>Areas important to fishing and aquaculture</i>			
6.1. Recreational Fishing	Significant displacement of recreational fishing and related activity by other activity, or permanent structures shall be avoided to the maximum extent practicable.		
6.2. Commercial Fishing	Significant displacement of commercial fishing and related activity by other activity or permanent structures shall be avoided to the maximum extent practicable. Consultation with sector is required commensurate with intensity of commercial fishing activity potentially being impacted.		
6.3. Charter & Party Boat Fishing	Significant displacement of charter and party boat fishing and related activity by other activity, or permanent structures shall be avoided to the maximum extent practicable.		
6.4. Recreational Shellfish	No permanent structures or activity that unreasonably restricts access to designated shellfish beds or recreational shellfishing activity.		
6.5. Commercial Aquaculture	No permanent structures or activity that interferes with commercial aquaculture activity.		

*Part III: Lenses for Consideration*

A series of six “lenses” are meant to be taken under consideration when applying the various policies and standards presented above. The lenses are meant to assist the applicant or agency when determining the suitability, location, and timing of a proposed project, and if that project calls for additional information and data collection. Lenses may also have additional resources associated with them that are meant to assist the user in considering the lens.

### *1. Other Applicable Laws*

Review and consider any other legal authorities that are not listed in Section 4.1 that may apply to a specific area or activity. Examples may include the Endangered Species Act, Marine Mammal Protection Act, Federal Energy Regulatory Commission, Connecticut or New York State Fisheries Regulations. Please refer to Chapter 2: Blue Plan Management Framework for additional information.

### *2. Degree of Conflict*

Review and consider the degree of conflict a proposed project may have with various natural resources, including ecosystem services, and human uses present in Long Island Sound. Please see Appendix 4: Conflict and Compatibility Matrices for a series of conflict and compatibility matrices that outline whether two uses or a use and resource are synergistic, compatible, conditionally compatible, or in conflict.

### *3. Reliability of Data*

Review and consider the reliability of certain data sets or map products when siting a proposed project. For instance, navigational channels will likely remain constant, while recreational boating and fishing areas may change by season or year. Utilizing data that is more fluid may require additional surveying or outreach. Additionally, the data presented is the best currently available data, as some datasets may be older or have gaps in data collection. Please see Appendices 2 and 3 and the [Inventory](#) for more information on the data utilized in this Plan and any current gaps (LIS Inventory and Science Subcommittee, 2019).

### *4. Duration, Permanence, and Seasonality of Resource or Use*

Review and consider the duration, permanence, and seasonality of the resource or use that may be impacted, and the duration and permanence of the new use proposed. For example, duck hunting and sailboat races occur seasonally while uses like ferry trips occur throughout the year.

### *5. Social, Community, and Generational Equity*

Long Island Sound is a public trust resource and must be shared between different stakeholders, diverse communities, and multiple generations. Review and consider how a new use may impact the greater population of Long Island Sound users, now and in the future. Applicants should also consider how their proposed project will differentially impact various users. Please view the [CT DEEP Environmental Justice](#) policies for more information (CT DEEP, 2009).

### *6. Climate Change Resilience and Mitigation*

Climate change is already evident on a global scale, and locally in Long Island Sound, including such impacts as increasing air and water temperatures, rising sea levels, extreme storm events,

changes in species composition and habitat utilization, and ocean acidification. Further effects of climate change are anticipated in the future, and could be exacerbated by 1) natural changes from coastal processes, and 2) changes in human development patterns. In an effort to adapt to evolving knowledge and understanding of the marine environment, including adaptation to climate change and sea level rise, it is vital for future activities and projects within the Blue Plan policy area to consider a changing climate in their design by enhancing the resiliency of the proposal and, where possible, mitigating any contributions to a changing climate. Please see the [CT DEEP Climate Change](#) policies and reports for more information (CT DEEP, 2019).

### **Implementation and Adaptive Management**

As the Long Island Sound Blue Plan is implemented and utilized over time, it is also important that the Plan adapts and improves. CT DEEP, with the assistance of the BPAC, should monitor progress in Blue Plan implementation, revise areas that could be improved, and adapt to changing environmental and social conditions, including the availability of new datasets.

Stakeholders and members of the public are encouraged to continue to provide feedback and comment on Blue Plan Implementation. Stakeholders and the public may submit comments directly to CT DEEP via email at [deep.blueplanlis@ct.gov](mailto:deep.blueplanlis@ct.gov), or mail:

Long Island Sound Blue Plan  
Connecticut Department of Energy and Environmental Protection  
Land and Water Resources Division  
79 Elm Street  
Hartford, CT 06106

Within available resources, CT DEEP will track the initial applications that are proposed within the Blue Plan policy area and are thus required to comply with the Blue Plan. CT DEEP will monitor any strengths and weaknesses of the Blue Plan as applied to these initial proposals. Within available resources, CT DEEP will also monitor any changing trends in the Blue Plan planning and policy areas, including changing distributions of natural resources and human uses. CT DEEP will also track if and when new data to inform the Blue Plan becomes available.

CT DEEP will regularly report on the progress and performance of the Blue Plan to the BPAC, which will hold at least one public hearing to receive comments and suggestions on Blue Plan implementation.

### **Agencies Implementing the Blue Plan**

The Blue Plan is implemented through a list of existing regulatory programs pursuant to CGS § 25-157t(h), and more detail can be found in Chapter 2: Blue Plan Management Framework, and Chapter 4: Blue Plan Policies and Standards. The regulatory programs described in those chapters are administered by:

- CT DEEP,
- CT Department of Agriculture: Bureau of Aquiculture,
- CT Siting Council, and
- Local shellfish commissions.

These agencies will implement the Blue Plan by considering Plan policies as a factor in the review of their regulatory programs identified in CGS §25-157t(h). As is the case now, each of those agencies will make the final decisions on their own permitting programs with all the existing rights of appeal available. There will be no new permitting or application process associated with the Blue Plan. From the CT DEEP perspective, there will likely be updates to the existing permitting forms to include Blue Plan references. The Blue Plan policy area, outlined and mapped in Section 3.3 Long Island Areas Subject to the Blue Plan, will be the determining factor on where the Blue Plan applies and where it does not. There will be no site-specific determination or interpretation needed of the policy area which is already definitively mapped.

Additionally, once the Blue Plan becomes effective, the Commissioner of the Connecticut Department of Energy and Environmental Protection will seek to incorporate the appropriate Blue Plan policies as part of its federally approved coastal management program pursuant to CGS § 25-157t(h). Upon approval by NOAA, those policies may be applied through the federal consistency process. At that point, pursuant to the applicable subpart of NOAA’s regulations (15 CFR part 930) certain federal actions in Long Island Sound need to be consistent with the plan’s enforceable policies listed in Appendix 1.

Also upon approval of the Blue Plan, a users’ guide will be available to assist applicants and interested parties in using the Blue Plan to assess and site potential projects in Long Island Sound. Additionally, some of the above-mentioned regulatory programs have other forms of supportive guidance available for applicants including [A Guide to Marine Aquaculture Permitting in Connecticut](#) and the [Connecticut Coastal Management Manual](#) (UConn Sea Grant, 2008) (CT DEEP, 2009).

### **Adapting the Blue Plan**

Pursuant to CGS §25-157t(h), “the Commissioner of Energy and Environmental Protection shall provide for the review and update of such inventory and plan at least once every five years and any revision to such inventory and plan shall become effective upon approval by the General Assembly, in accordance with subsection (g) of this section.” The Blue Plan may also undergo changes prior to the mandated five-year review and update if the BPAC finds it appropriate to do so. The Commissioner also has the authority and discretion to include new and updated data and maps into the Inventory and Blue Plan, at any time.

Although DEEP has the mandate to fulfil this adaptive management provision, duty also falls to the people of Connecticut to bring forth changes that they believe must be made to the Blue Plan documents, and information to support these changes. As is noted earlier in this document, it is

important that those who know the Sound best be active participants in the evolving management and stewardship thereof.

### **Topics for Future Consideration**

Long Island Sound will change over time, both in terms of the environmental resources and human uses. In addition to these ordinary changes over time, there will likely be future policy drivers, considering topics like a changing climate and economic development that encourage new and different uses of the Sound.

New technology and new opportunities will likely lead to expanding and new uses of the Sound over time. It is important that the Blue Plan consider the potential for new industries entering the Sound, when fostering informed decision making. For instance, in addition to the ongoing rise of a budding farmed seaweed industry, other potential new human uses may include:

- Renewable Energy Infrastructure
- Bio-extraction projects using shellfish or seaweed
- Artificial islands for habitat creation or dredged material disposal
- Artificial Reefs or Eternal Reefs<sup>12</sup>
- Transportation Infrastructure and new forms of maritime transportation (e.g., high-speed ferries, small-scale freight services)

Further, shifts in climate around Long Island Sound could have tremendous implications for the resources and use of the Sound, as well as how the Blue Plan is implemented.

Legislative considerations that may assist the implementation and adaptation of the Blue Plan over time include earmarked funding for Blue Plan implementation and revision, and submerged land leasing provisions to allow Connecticut to operate programs under which submerged public trust lands are leased for private use.

### **Areas for Future Consideration**

A topic for future consideration and analysis may be to develop “priority use areas” to encourage similar types of uses to cluster within an area or region, such as Pipeline and Cable Corridors or Tidal Energy Areas. Another topic is the need to establish a consistent method to notify the public or certain stakeholder groups of new projects that are being proposed in the Blue Plan policy area. Finally, data gaps are identified in the Inventory, and the Blue Plan Advisory Committee may wish to establish priorities for future research to fill data gaps in cooperation with UConn.

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<sup>12</sup> Eternal reefs are alternative [at-sea burial sites](#).