

Connecticut's Draft Coastal Management Plan Volume 1



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STATE OF CONNECTICUT
DEPARTMENT OF ENVIRONMENTAL PROTECTION



COASTAL AREA MANAGEMENT PROGRAM

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February 26, 1979

Mr. Robert W. Knecht
Assistant Administrator for
Coastal Zone Management
NOAA, Office of Coastal Zone Management
3300 Whitehaven Street, N.W.
Washington, D.C. 20235

Dear Bob:

Enclosed are three (3) copies of Connecticut's Section 305(d) program document as required for preliminary approval of our proposed management program and for funding for a fifth year. As part of our current grant agreement with your office, this document is a "draft" and has not been reviewed outside the CAM Program. It is our intent to revise this document based on OCZM staff review prior to release to the CAM Advisory Board. Following their review, the document will be used as the foundation for our 306 program document which will be prepared for submission during the fall of 1979 (September, 1979 target).

This document precedes our grant application for next year, which will be submitted by April, 1979. The grant application will address those deficiencies in the program previously identified in consultation with your staff, and any other deficiencies that may be identified and agreed to in the review of this document. The major deficiency, of course, is lack of adequate statutory authority to implement a "technique a" program. Adequate authority, previously reviewed and negotiated with your staff, is currently pending in the Connecticut General Assembly. In addition, we are currently negotiating with your staff on the adequacy of existing authorities for an interim "technique b" approval, should that approach be necessary.

Because there will be no program implementation during the coming year due to lack of legislation, an environmental impact assessment is not enclosed with this document. Such an assessment will be completed and submitted with the 306 program document in September.

If you would like further information or if you have any questions, please call me.

Sincerely,

Arthur J. Rocque, Jr.
Program Manager

AJR/dd
Enclosures

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DISCUSSION DRAFT

CONNECTICUT
COASTAL MANAGEMENT PROGRAM
FEBRUARY, 1979

State of Connecticut
Department of Environmental Protection
Coastal Area Management Program
71 Capitol Avenue
Hartford, Connecticut 06115



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SECTION I

INTRODUCTION TO CONNECTICUT'S COASTAL AREA MANAGEMENT PROGRAM

Long Island Sound has been frequently characterized and described as an "Urban Sea." The image raised by this description is appropriate for Connecticut's coastal area which has historically been the center of intense industrial, commercial and residential activity. While residential usage of the Connecticut shoreline in other than the vicinity of the ports of Stamford, Norwalk, Bridgeport, New Haven, New London and Norwich began as seasonal dwellings, changes in land use patterns following World War II and the corresponding residential and corporate exodus from the New York metropolitan area have changed the residential mix from seasonal to permanent. Vacant shorefront land and open space in Connecticut's heavily developed coastal area is at a premium. Recent studies of population growth and corresponding industrial, commercial and residential activity along Connecticut's coast completed under contract to the Coastal Area Management (CAM) Program indicate that this trend will continue for the foreseeable future.

Because of historical growth patterns along the coast, a significant number of traditional public safety and welfare oriented police power regulatory programs have been implemented at both the state and municipal level for coastal lands. For example, planning and zoning began in Connecticut in the early 1930's and the state's regulatory program for coastal structures was underway by 1940. Today all of Connecticut's coastal municipalities exercise full planning and zoning authorities with most communities retaining professional support staff. The notable exception is in the lower Connecticut River estuary which remains largely undeveloped. Municipalities in this region generally rely on the capabilities of the Connecticut River Estuary Regional Planning Agency which also provides staff support to the Connecticut River Gateway Commission, established as part of the lower Connecticut River Conservation Zone.

While land use regulatory programs at the state and municipal level, complimented by a variety of federal coastal regulatory programs, have provided complete regulatory coverage of development activities in the coastal area, it was not until passage of Connecticut's tidal wetlands act in 1969 and creation of the Department of Environmental Protection in 1971 that the management of coastal resources became part of the statutory mandate. Using the initiative established during the early 1970's by the Committee on Coastal Management headed by State Senator George Gunther and the U.S. Senator Abraham Ribicoff sponsored New England River Basins Commission's Long Island Sound Regional Study, the CAM Program of the Department of Environmental Protection has developed a comprehensive coastal management program for statewide implementation at both the state and municipal level of government.

The recommended program utilizes the significant array of existing state and municipal regulatory programs as its foundation and has two central purposes; first, to assure that adequate consideration of the impacts of development on coastal resources is given by both the state and coastal municipalities and, second, to increase the level of intergovernmental coordination through planning and regulatory programs affecting the coast by providing common, statewide policies to guide federal, state and municipal agencies. To achieve these purposes, Connecticut is not proposing additional regulatory programs nor are existing regulatory jurisdictions being significantly altered. Rather coastal management will be implemented through a coastal site plan review as part of municipal planning and zoning programs and through statewide coastal policies to guide federal, state and municipal planning and investment programs. Coastal municipalities are also encouraged to develop municipal coastal programs by revising existing town plans of development for their coastal areas. Existing state regulatory programs will be required to be consistent with the same coastal resource definitions, policies and impact criteria proposed for the municipal coastal site plan review, and coastal municipalities are given a formal role in state regulatory actions.

Because of the highly developed nature of Connecticut's coast and the resultant loss and degradation of critical coastal resources, the focus of the management program is first, the resources at the land-water interface significantly affecting or affected by natural coastal processes and second, adjacent land and water resources. This focus is critical if Connecticut is to protect, restore and enhance remaining coastal resources. For example, CAM surveys indicate that, except for urbanized port areas, over 50% of the remaining undeveloped shore-front property is classified as tidal wetland. In addition, much of the remainder is in flood or erosion hazard areas. To assure a concentrated effort in protecting those endangered resource areas, critical resources and the natural processes that they support have been identified as in the "national interest." Further, tidal wetlands and shellfish concentration areas have been nominated as "areas of particular concern" along with the activities that most significantly affect them, dredging and spoil disposal. To assist in better regulatory decisions at all levels of government, coastal resources and adverse impacts have been defined by statute in the amendments to Connecticut's Coastal Management Act and a comprehensive set of coastal resource maps have been prepared for the entire coastal area. Funding through the federal Coastal Zone Management Act will be used to provide a continuing state overview through the Department of Environmental Protection's CAM Program and to provide needed technical and financial support to state and municipal coastal regulatory programs.

SECTION II
DESCRIPTION OF CONNECTICUT'S
COASTAL ENVIRONMENT

NATURAL ENVIRONMENT

The coastal seaboard and waters of the Long Island Sound estuary and their resource systems form an integrated coastal ecosystem that is unique and fragile. Long Island Sound occupies a basin, 113 miles long and 21 miles wide, located between Long Island and the Connecticut-Westchester County, New York region. The Connecticut coast bordering the Sound is 98 miles long, but total shoreline frontage, including tidal rivers and embayments, is 458 miles. Offshore islands comprise an additional 90 miles.

Forty percent of Connecticut's population lives in the 36 coastal towns; however, seventy-five percent of that population, or nearly 910,000 residents, lives in the 17 southwestern towns (west of Guilford). This population pattern reflects the proximity of these towns to New York city and its markets. This pattern of development and the dense urban areas surrounding many harbors have significantly affected the quality of nearshore water and its ability to support both recreational interests and healthy marine resources. Although most of the Sound's offshore waters are of acceptable quality, the westernmost waters show deteriorated characteristics. These characteristics are a result of the cultural effluents and urban runoff from the western Long Island, Westchester County, and southwestern Connecticut urban environments. The most notable cause is the East River, which is joined to New York Harbor and runs through sections of New York city.

Connecticut's coastal seaboard, which is the coastal part of the New England Uplands, is a glaciated zone underlain by crystalline bed-rock which slopes southward at 50 feet per mile. In contrast the Connecticut Lowland Valley at New Haven is comprised of shales, sandstones, and limited exposures of trap rock. Elevations vary from sea level to a maximum of 400-500 feet inland, but shoreline relief is maximal where the rocky uplands intersect with the coast. Low, rolling hills and occasional rocky lands interposed by level to undulatory sand and gravel plains characterize the coastal landscape.

Biophysical Zone V, depicted in Figure 1, embodies two or three ecoregions that are virtually coextensive to the seaboard. The moderating effect of seabreezes, penetrating 5-10 miles inland, produces a cooling trend in spring and summer and a warming one in fall and winter. The mean annual temperature is 51 degrees F, and precipitation averages 44-48 inches a year. The coast experiences one of the longest frost free seasons in the state, 180 days in duration. The maritime climate, and the recurrent pattern of landforms and glacial inceptisolic soils, create a vegetation zone called the coastal hardwoods zone.

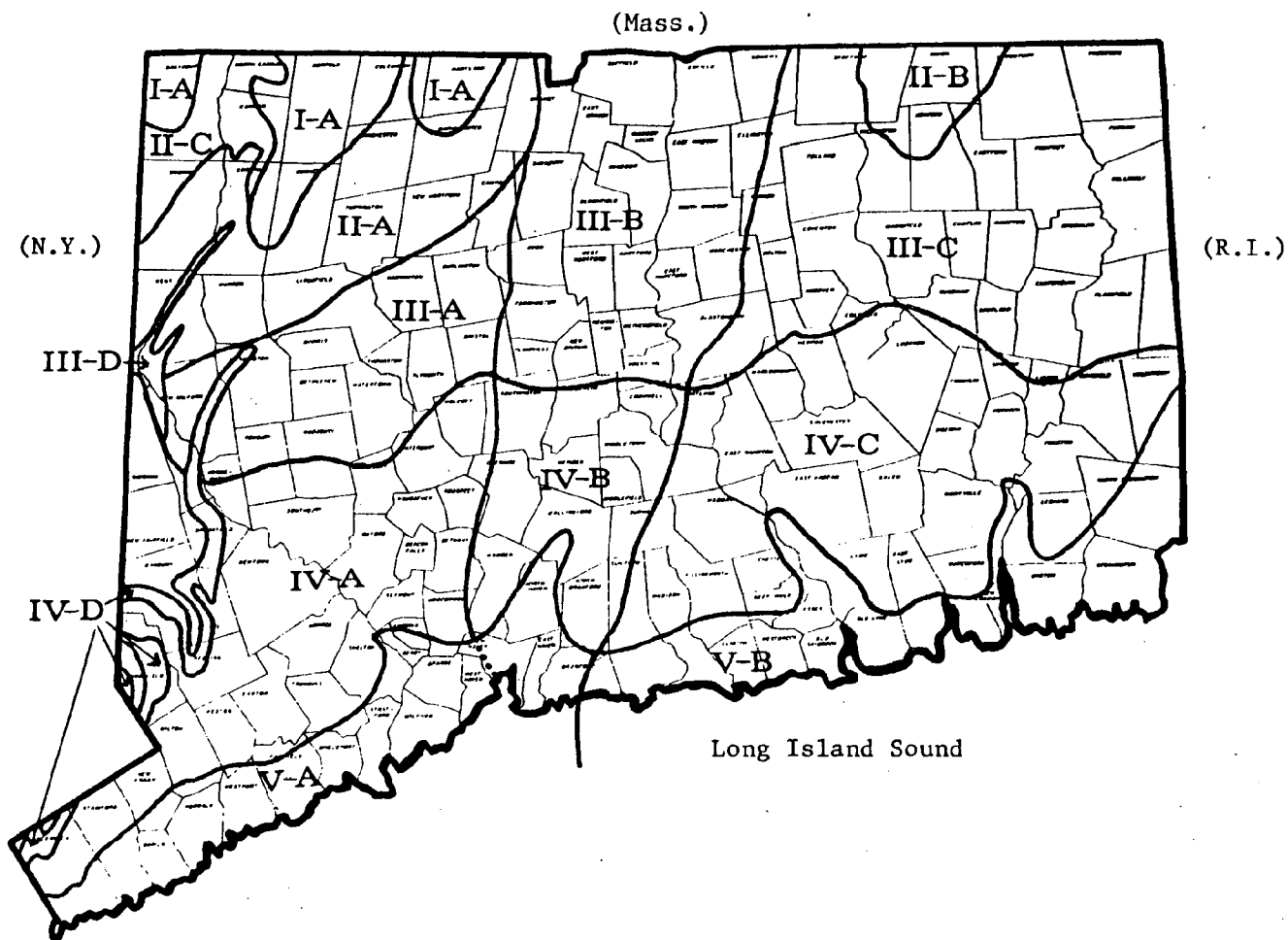


Fig. 1. Ecoregions of Connecticut

- I. Northwest Highlands-Northern Hardwoods zone
 - A. Northwest Highlands ecoregion
- II. Northern Uplands-Transitional Hardwoods zone
 - A. Northwest Uplands ecoregion
 - B. Northeast Uplands ecoregion
 - C. Northern Marble Valley
- III. Northern Hills-Central Hardwoods-White Pine zone
 - A. Northwest Hills ecoregion
 - B. North-Central Lowlands ecoregion
 - C. Northeast Hills ecoregion
 - D. Central Marble Valley
- IV. Southern Hills-Central Hardwoods zone
 - A. Southwest Hills ecoregion
 - B. South-Central Lowlands ecoregion
 - C. Southeast Hills ecoregion
 - D. Southern Marble Valley
- V. Coastal Hardwoods zone
 - A. Western Coastal ecoregion
 - B. Eastern Coastal ecoregion

The Connecticut shoreline is subject to the forces of wave action, and sea level rise presently averaging approximately one to one and one-half feet per century. These forces act in concert on Connecticut's shore (85% of which is composed of potentially erodible materials) and the result is a retreating and submerging shoreline. This shoreline has an irregular geometry with many headlands, embayments, and islands. The following composition statistics illustrate the diversity of resources along the shore interface: sandy beach - 18.9%; glacial drift - 15%; artificial fill - 10.9%; bedrock - 9.6%; salt marsh - 6.5%; and undifferentiated tidal river shoreline - 39%. The variety of coastal landforms, and the variable marine processes affecting them, preclude a simplistic management treatment of the coast. In addition, seven complex districts, each representing a recurrent pattern of coastal landforms that are mixed or uniform in nature, can be discerned along the coast. The following district composition statistics in Table 1 together with the descriptions below show the characteristics of each district (see Figure 2).

TABLE 1

Shoreline Statistics

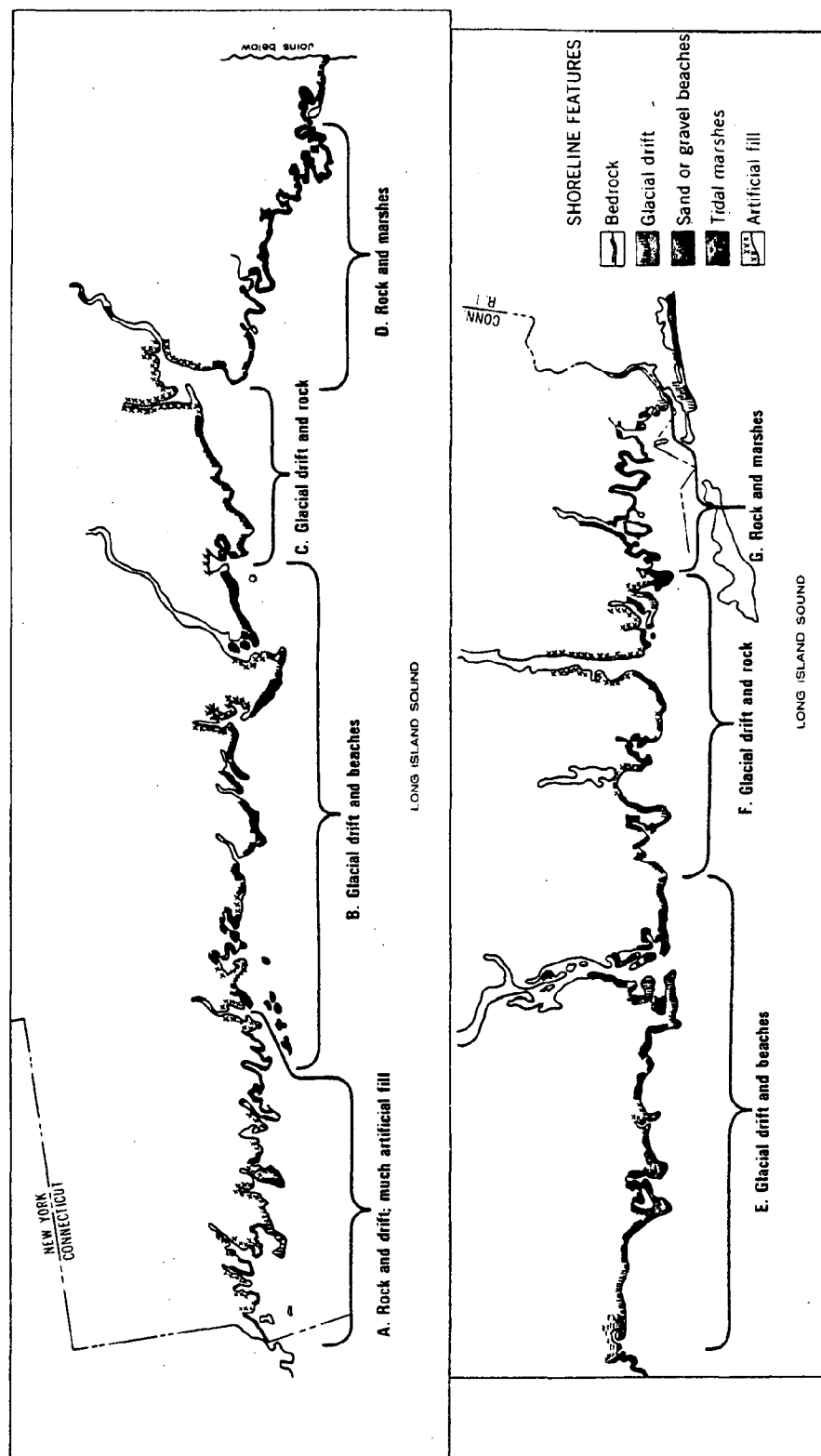
<u>DISTRICT</u>	<u>SANDY BEACH</u>	<u>GLACIAL DRIFT</u>	<u>BEDROCK</u>	<u>ARTIFICIAL FILL</u>	<u>TIDAL MARSH</u>	<u>TOTAL MILES</u>	<u>LINEAR MILES</u>
A	17.7%	29.3%	22.4%	22.2%	5.8%	68.9	15
B	37.0%	20.0%	0.67%	28.3%	13.8%	60.0	20
C	50.0%	14.8%	3.9%	30.5%	0.8%	12.8	8
D	13.2%	10.2%	56.5%	9.0%	3.7%	33.3	12
E	54.4%	18.9%	1.8%	10.0%	14.3%	34.9	22
F	27.7%	36.4%	12.7%	13.0%	10.2%	39.3	13
G	16.0%	41.0%	16.5%	10.0%	16.5%	18.2	8

(1) Mixed Districts (A, F, G) are embayed and have an irregular geometry controlled by the preponderance and distribution of the least erodible materials: bedrock and till. Surficial resources are mixed, but central to district F are the three tombolos: Black Point Spit, Bushy Point Beach, and Groton Long Point.

(2) Outwash Districts (B, E). Salient features in these wave-straightened, linear to arcuate districts, are the extensive stretches of sandy (predominantly fringing) beaches fronting two broad zones of sandy outwash.

FIGURE 2

DISTRIBUTION OF SHORELINE FEATURES AND DISTRICTS



(3) Mixed Drift District (C) has a scalloped shoreline controlled by recurrent but limited outcrops of bedrock. Conspicuous in this district of mixed till and outwash are the largest sea cliffs in Connecticut ranging upwards to 40 feet.

(4) Bedrock District (D). Rocky headlands that have been stripped of their veneer of drift and residuum by wave erosion essentially account for this irregular district of rocky headlands shorefront, limited pocket beaches, and tidal wetlands. The many small rocky islands and reefs in the Thimble Island system are an unique characteristic of this district.

(Note: The preponderance of artificial fill in districts A through C reflect the intense urbanization of southwestern Connecticut.)

The Long Island Sound basin is an asymmetric, preglacial valley situated between the bedrock of southern New England and the coastal plain sediments of Long Island. The estuary is unusual in that two independent and restricted passages to the ocean exist at opposite ends of the Sound. They are the Race, which links the Sound with Block Island, and the East River, a tidal strait connected with New York Harbor. The Mattituck sill and the Hempstead sill are submarine ridges, with minimum elevations of 10 and 20 meters respectively, which delimit the eastern and western boundaries of the main central basin (averaging 26 meters) and its water mass. West of the Hempstead sill to the Throgs Neck lies the westernmost basin. Its waters are a mixing zone with an estuarine circulation that shunts lower density East River water into the western basin. The chain of morainal islands between Orient Point, Long Island and southwestern Rhode Island demarcate the eastern boundary of the Sound and the irregular eastern basin. Its waters are connected with the Block Island Sound. These cold, saline waters, dominated by an estuarine circulation pattern coupled to the ocean tides entering the Race, influence the overall water and salt budget of the central basin. Volume exchange rates at the Race are 60 times that of the western passage.

Tides and currents are dominated by semi-diurnal lunar tides. Basin geometry amplifies the ocean tides such that they increase progressively from east (2.5') to west (7.8'). The scouring effect of the turbulent tidal exchange at the Race has sculptured the irregular bathymetry in the eastern basin, and caused sediments predominantly of medium sands to collect in sheltered regions, and coarse sands, gravel, and cobble to settle in the main channels. Concurrent with the net westward motion of the bottom waters in the eastern basin is the conveyance of medium and fine sands to the Mattituck sill. The sediments in the central basin and western basin, regions of low tidal currents, are characterized by a non-uniform veneer of marine silts and fine sands over deposits of glacial sands and gravels. Extraction of these valuable glacial sediments in the main is economically unfeasible and not without severe environmental impacts.

Coastal waters are defined as those waters containing a measurable quantity of seawater, which in this instance includes all coastal waters with a salinity at or above 0.5 parts per thousand. Freshwater drainage from the five major drainage basins fronting on the Sound and its estuaries contain countless small streams and creeks. Principal to the chemical properties of the Sound are the three tidal rivers: the Housatonic, the Connecticut, and the Thames. Secondary are the Saugatuck and Quinnipiac Rivers. In fact, the Connecticut River, discharging into the eastern basin, accounts for more than seventy percent of the Sound-wide runoff. The low salinity plumes at the mouths of the Housatonic and Connecticut Rivers are frequently visible from the air. The net transport of low salinity surface waters eastward, and dense, saline bottom waters westward in the eastern basin, has the propensity to conserve essential nutrients in the central basin, particularly when surface waters are depleted of nutrients by phytoplankton. Reputedly, nitrogen limits phytoplankton blooms. Average salinities in the western and central basins are 26 parts per thousand and 27-28 parts per thousand respectively. Waters in the central basin are highly mixed, except during prolonged periods of calm that promote vertical stratification. Residence time of water in the eastern basin is on the order of one week, but the renewal rate increases westward to the point that the westernmost waters have limited capacities to assimilate cultural pollutants.

The enriched estuarine waters of Long Island Sound support a variety of marine finfish and shellfish. More than 100 species of fish inhabit Connecticut's coastal waters, although significant commercial and recreational species number fewer than one dozen. The otter trawl commercial fishing industry harvests blackback and yellowtail flounders, porgy, butterfish, and to a lesser extent mackerel and herring. The anadromous American Shad supports the most valuable commercial industry in the lower reaches of the Connecticut River. Principal commercial shellfish species are hardclams, scallops, and mussels, but especially important are the oyster and American lobster. The western region of the Sound supports the largest populations of both oyster and lobster. Bluefish is the most important recreational fish, followed by striped bass, flounder, blackfish, porgy, mackerel, and weakfish.

The Sound functions as an important resting and feeding area for migratory waterfowl and shorebirds in the Atlantic Flyway. Numerous bay-marsh complexes function as critical waterfowl staging areas. The intertidal flats at New Haven Harbor and the Great Meadows also concentrate large numbers of shorebirds. Large rafts of waterfowl frequent the Sound in winter, particularly Black Duck, Greater Scaup, Canada Geese, Red-breasted Mergansers, Scoters, and Golden-eye. A few onshore beaches and offshore islands support small localized breeding colonies of terns. These habitats are more important than ever because many suitable habitats have been destroyed along the entire eastern seaboard. Rare and declining coastal avifauna include American bittern, Common Egret, Little Blue Heron, Yellow-Crowned Night Heron, Black Rail, Piping Plover, Willet, and the endangered Osprey. The recreational value of coastal wildlife, save the hunting aspect, is predominantly an aesthetic one.

COASTAL RESOURCES

The coastal area and each of its component resources form an integrated but fragile ecosystem. The coastal management area encompasses (1) all coastal waters, (2) all nearshore lands with the potential to significantly impact coastal waters, (3) lands prone to coastal flooding, and (4) unique resources found nowhere else in the state. In principle, these are composite resources, each with their own distinct abilities to assimilate impacts or their own unique intrinsic properties with respect to the welfare of the larger coastal ecosystem. A detailed treatise of the 13 resources is beyond the scope of this document but the cursory treatment below will suffice to delimit their physical attributes and to function as a foundation for discussion of the issues. General definitions of each resource accompany the goals and policies, see Section IV.

Coastal Waters

Long Island Sound is composed of discrete water masses and substrates including countless tidal estuarine streams and creeks which collectively form an integrated, continuous, and composite water system. Each component differs in chemical and physical properties and overall significance to the coastal water ecosystem or specific biota. Most notably they contain different capacities to assimilate anthropogenic impacts and cultural pollutants. Offshore waters, nearshore waters, and estuarine embayments, are the principal resource elements in this system. The texture and pattern of benthonic sediments in addition to topography in the offshore, below the 10 meter bathymetric contour, in the main, are not influenced by wind-waves occurring during either normal conditions or storms. The nearshore zone is distinguished by coarse sediments, predominantly coarse to fine sands, and a well-mixed water column. In fact, the turbulence in the shore and upper shoreface creates unstable substrate conditions which preclude all but the most active marine organisms. This zone varies considerably in width from 0.5 miles contiguous to rocky shorelines, to a maximum of 4 miles where the broad, sandy outwash plains intersect with the shore. The average southward slope is 1:200. The offshore, however, slopes more gently southward, and its waters are moderately stratified to well-mixed by tidal currents and waves. The role of the turbulent tidal exchange at the race is an important one for both the coarse nature of the sediments, and the rapid flushing rate in the eastern basin.

Estuarine embayments are small, confined waters encircled by land that are semi-enclosed with a restricted tidal passage to the Sound. Fringed by vital tidal wetlands and flats, embayments represent an indispensable and highly productive resource. Basin geometry varies, and depths average 6 feet but range to over 20 feet in the principal tidal rivers. Turbidity is higher than nearshore waters and salinity ranges from 0.5 to 28 parts per thousand. Sediments are predominantly fine-textured. An important characteristic of these sheltered environments is the submerged flats of eelgrass (Zostera marina) which enhance pro-

ductivity, transfer essential nutrients from the sediments to the water column, mitigate the impact of wave energy on the shoreline, trap and stabilize sediments, and are an essential substrate to the life cycle of the scallop for brief periods of time. It is, therefore, not unusual that the preponderance of scallops coincides with the distribution of eelgrass which is essentially restricted to the easternmost embayments, and to the protected Fishers Island Sound. Embayments are particularly susceptible, more so than nearshore waters, to pollutants because of their small volume, fine-textured sediments, and limited circulation.

Intertidal Resources

Tidal Wetlands -- Tidal wetlands have a significant role in the estuarine environment. Notably, these grassy coastal floodplains are highly productive. Salt and brackish marshes are the two primary tidal wetland systems that occur in the coastal area. In southern New England, tidal marsh soils are predominantly organic. However, suspended riverine silts are essential to marsh maintenance and growth.

There are four vegetation zones in the salt marsh. These zones run in progression from the low to high marsh: (1) the lower slope marsh comprised of a belt of salt marsh cordgrass, (Spartina alterniflora) (2) the upper slope dominated by either salt marsh hay (Spartina patens) or Spike grass (Distichlis spicata) or an intricate mosaic of both, (3) the lower border of the rush, Black Grass (Juncus gerardi), and (4) upper border transition between the marsh and upland which is inundated by extreme annual storms and supports a grassy belt of switchgrass (Panicum virgatum). Historically, impacts, particularly dredging and filling, have irreversibly destroyed more than 50% of Connecticut's marshes. In addition, certain activities, particularly the construction of tidal gates that significantly alter hydrology, flood frequency and salinity of the upstream estuary, have culminated in the conversion of acres of salt marsh to brackish reed (Phragmites communis) marshes. Only a small percentage of Connecticut's salt marshes are in a natural state. Most contain a complex network of mosquito ditches that have altered drainage and vegetation patterns.

Progressing upstream, as salinities diminish, salt marsh species are replaced by a plethora of brackish water taxa, predominantly the brackish water reed and the brackish water cattail (Typha angustifolia). Lesser in importance are the bulrushes (Scirpus americana, Scirpus olneyi, S. validus and S. fluviatilis).

Intertidal Flats -- Intertidal flats are level to gently seaward sloping areas, restricted to protected, low energy embayments, that are subjected to alternating tidal inundation and dessication incidental to exposure. Substrate characteristics range from mud to sand in the more exposed cases. These flats average less than 1,000 - 2,000 feet. They function as temporary nutrient traps, act as limited sinks for pollutants, are specialized habitats for certain marine invertebrates, and are particularly important feeding and resting areas for migratory shorebirds.

Coastal Land Resources

Beach Systems (Beaches and Dunes) -- The beach composed of unconsolidated sands and gravels, in addition to landforms of wind deposited sands, constitutes an integrated but complex resource system. Along Connecticut's shore these systems develop under conditions of low wave energy and are therefore narrow features, generally less than 200 feet in width. The generic classes of beach systems are interspersed between a multitude of headland and rocky shoreline which preclude lateral continuity of the littoral transport system. Fringing beaches fronting glacial drift uplands, and barrier beaches surrounded by water are two classes of beach systems on the coast. Fringing beaches generally lack aeolian landforms and border escarpments or seacliffs (bluffs). Aeolian landforms, however, are conspicuous on Connecticut's few barrier beach systems.

Generally, in Connecticut, dunes are rare aeolian landforms. A single dune ridge, averaging less than 1-2 meters in relief, and level to undulatory sand flats leeward, typify the nature of aeolian systems at the coast. Sufficient breadth and elevation of these deposits to support a freshwater table and marshes do not exist. Ridges and flats support a one-layered coastal grassland dominated by Beach Grass (Ammophila breviligulata) and Poison Ivy (Rhus radicans), the two most important sand dune and ridge stabilizers. Limited in occurrence are dunes which provide sufficient protection from the rigors of salt spray to permit development of a coastal scrub woodland of Wild Black Cherry (Prunus serotina) and Shadbush (Amelanchier species).

Beach systems are valuable coastal resources in Connecticut. However, because of the encroachment of development, notwithstanding natural limitations, most are only of local importance from either a natural or a recreational perspective. Few beaches are devoid of structural devices built to mitigate the impacts of erosion, particularly groins and seawalls. Aeolian landforms and their biotic communities have all but been obliterated by low to moderate residential development and concurrent pedestrian traffic. Notable exceptions are Griswold Point, Bushy Point Beach, Black Point Spit, Milford Point and Long Beach, representing virtually the only significant and unaltered beach systems in the state.

Coastal Bluffs and Escarpments -- Bluffs and escarpments are steep, seaward sloping coastal cliffs etched into glacial drift headlands. Nearshore bathymetry is also steep, permitting the maximum expenditure of wave energy on these shorelines. These shorelines have dynamic slopes that adjust to the rate of erosion of the lower slope as mediated by waves, substrate composition, drainage and degree of plant cover. Seacliffs range from small marine escarpments with a relief of 0.5 to 1 meter upwards to a maximum of 40 feet fronting the most prominent headlands. Concurrent with slope failure and wave action is the formation of narrow headland beaches of cobble stone mixed with boulder. Like rocky shorefronts, these landforms are less than 100 feet in width. Today, most bluffs and escarpments are modified by seawalls and riprap.

Resulting from the stabilization of bluffs and escarpments, an invaluable sediment source to the contiguous beaches, is accelerated downdrift erosion. Inevitably, the stabilization influence of structures is a temporary one, and if fetch limitations were not imposed by the Sound on wave energy, many of these structures would have been undermined and destroyed long ago. The few natural bluffs support a diverse variety of herbaceous vegetation and scattered shrubs. This vegetation provides natural stability but does not interfere with the function of these sea cliffs to nourish beaches with sand.

Coastal Islands -- The former seaward extent of Connecticut's coast is marked by the distribution of coastal islands, representing upland hills with sufficient elevation to preclude inundation, which have not yet succumbed to wave erosion. These islands are chiefly composed of bedrock, mantled with a thin veneer of droughty soils, and have rocky shorelines (e.g., the Thimble Islands). In addition, abutting the shore are numerous islands of till. The Norwalk Islands and the two islands south of Guilford, Falkners and Goose, which are reputedly morainal in origin, are less common. The shorelines on both till and morainal islands are replete with a variety of resource types, including boulder shorefront, seacliffs, salt marshes on sheltered shores, and stony or cobble beaches. Sandy beaches, dune ridges and sand flats are rare elements. Less than 20% of these islands exceed 10 acres with the average areal extent of 7 acres.

Physical parameters such as salt spray, habitat diversity and acreage affect the structure and floristic composition of island vegetation. Small islands often support scant vegetation consisting of herbs and salt pruned shrubs. Dry coastal woodlands of oak and, locally, pitch pine (Pinus rigida) occur on the larger islands.

Certain islands support wildlife not found on the mainland coast because of the limited development commonplace to islands. Two islands merit mention. The first, Chimon Island in the Norwalk group, contains one of the few Northern heron rookeries of Black Crowned Night Herons, Snowy Egrets, and state rare taxa, the Little Blue Heron, Cattle Egrets, and Great Egret. Although Chimon Island is the largest heron rookery in Connecticut, it represents an extreme Northern habitat for the rare species (which are more common to the South) that nest there. The second, and of regional and perhaps national importance, is the Roseate tern breeding population on Falkner's Island which is owned by the U.S. Coast Guard. Not only does the island contain the largest Connecticut Common and Roseate tern colony, but it also contains one of the largest of the few remaining Roseate tern colonies on the eastern seaboard. In 1978, 160-180 pairs nested on this island. Historically, this island served as a refuge for terns during periods of disturbances at the main regional colonies such as Great Gull Island, New York. In fact, at one time, Falkners and the nearby island, Goose, supported 1,600 pairs of Roseate Terns.

Rocky Shorefront -- This category entails both intertidal and supralittoral shorefront of gently to steep sloping rockland, and dense aggregations of boulder armoring the shore. Rocky shorefront constitutes a relatively erosion stable shoreline, and is an insignificant sediment source to downdrift landforms like beaches. Beyond the reach of the tides, the rock is exposed, devoid of vegetation, and rarely exceeds 100-200 feet in width. Intertidal rocky shorefront functions to provide a stable substrate for a plethora of specialized marine plant and animal communities. Barnacles, mussels, snails and rockweed are prevalent here.

Shorelands -- Shoreland elevations exceed the still water flood level of the 100 year coastal event thereby precluding coastal flooding. Activities initiated on shorelands may significantly impact coastal waters. These lands are replete with a variety of upland landforms including drumlins, rocky lands, glacially rounded till hills and plains, each with their own conspicuous and characteristic sequences of soils. Coastal vegetation in both the shorelands and coastal hazard areas are differentiated by the preponderance of oaks, particularly scarlet, black and white, and the absence of northern species. Rich silty loams and lower concave slopes support a rich, fast growing forest dominated by oaks.

Coastal Hazard Area -- These nearshore lands are subject to coastal flooding and concurrent erosion incidental to normal or extreme coastal events upward to the 100 year event, as identified by HUD-FIA mapping. This zone embodies beach systems, rocky shorefront, bluffs and escarpments, tidal wetlands, occasionally freshwater wetlands, and uplands of low elevation. The biotic communities here are markedly similar to those inhabiting shorelands. However, plant communities contiguous to the shore can be markedly pruned by the dessicating action of salt spray.

Freshwater Wetlands and Watercourses -- The definition of this compound category conforms to the Wetlands and Watercourses statute which defines wetlands on the basis of certain soils that are poorly drained, very poorly drained, alluvial, or flood plain types as designated by the soil conservation service. At least 20 different wetland soils exist in the coastal area reflecting these categories. Watercourses include rivers, streams, brooks, waterways, lakes, and ponds. Flood mitigation, recharge, filtration of pollutants and important wildlife habitat are included in the functional role of these indispensable and fragile resources.

Wetland vegetation on both mineral and organic soils is primarily a swamp type, dominated by Red Maple. There are, however, local occurrences of Atlantic White Cedar. Floodplains and alluvial deposits are scarce.

Urban Shorefront -- These nearshore lands have been so highly engineered and developed that the natural landscape and systems relationship to contiguous resources are functionally impaired and irreversibly altered. In principle, these lands are the major coastal economic centers. Their land use types are light to heavy industry,

commercial, institutional, and high density residential areas. The former natural structure and function of the soils have been substantially altered by grading, capping with artificial fill and impervious surfaces. The shoreline is generally rectilinear with a host of seawalls, wharves and docks to accommodate shipping activities. As a result of urban runoff, groundwater contamination, oil spills, discharges from municipal treatment plants, and certain industrial uses, water quality in these harbor areas may be significantly degraded.

AIR QUALITY

While significant progress has been made in improving Connecticut's air quality, violations of the National Ambient Air Quality Standards continue to occur. The state has met the national standards for sulfur dioxide and nitrogen dioxide, but a determination of non-attainment has been made for total suspended particulates (TSP) and photochemical oxidants. Current ambient pollution levels are the result of three general categories of source emissions: 1) natural sources, 2) out-of-state sources, and 3) in-state sources. Natural sources are essentially uncontrollable and their impact considered minor. Out-of-state sources consist of an air mass portion and an urban plume portion. The general air flow from west to east brings pollutants from across the country to Connecticut. Located just a few miles to the southwest of Connecticut, the New York City/New Jersey Urban Complex is one of the state's largest emissions sources. In fact, DEP studies show that on certain southwest wind days up to two-thirds (2/3) of elevated photochemical oxidant (ozone) levels are assignable to this complex. At other times, however, levels of both photo-chemical oxidants and total suspended particulates are attributable to instate sources and intrastate air pollutant transport. The major instate emission source is the automobile and associated traffic congestion.

The coastal area lies within three of the four Air Quality Control Regions (AQCR) established for the state. For the most part, ambient air pollutants can more readily be attributed to a generic source than a specific source. However, several points directly associated with the coastal area can be noted.

Non-attainment of the primary standard for total suspended particulates (TSP) in AQCR 43 has been related to the coal fired Cos Cob Power Plant in Greenwich. The violation was caused by reduced stack height. The stack has been replaced and the station is converting to oil which should eliminate the violation. AQCR's 42 and 43 have been determined non-attainment for the 8 hour carbon monoxide (CO) standard. The primary cause here is traffic congestion in urban areas. The coastal area not only houses many of Connecticut's urban areas but several major traffic routes including Interstate 95 which runs along the length of Connecticut's coastline.

The coastal area contributes to intrastate air pollutant transport through both mobile and stationary sources. In a sense, the coastal location contributes to the transport of out-of-state sources of air pollutants. Winds are a dominant factor in TSP transport. The land-sea breeze affects the direction of prevailing winds. The frequent occurrence of land and sea breezes along coastal Connecticut, especially in spring and summer, accounts for the transport of out-of-state and in-state emissions beyond the coastal area to inland areas.

The Connecticut Department of Environmental Protection prepared its first State Implementation Plan (SIP) for air quality in late 1971 and received EPA approval in May 1972. Under existing state regulations new or modified stationary sources must obtain permits from DEP for the construction and operation of a facility. A Transportation Control Plan was submitted to EPA in 1976 as a revision to the original SIP which did not meet standards for auto-related pollutants. This Plan has not yet received approval from EPA.

The DEP is in the process of formal revision to the State Implementation Plan For Air Quality. The strategies proposed in this plan are oriented toward achieving federal emissions goals and standards. DEP projections show probable attainment of emissions standards by 1987 since the federal government revised the .08 ppm oxidant standard to a .12 ppm oxidant standard.

Six of the fifteen proposed strategies deal with mobile sources which mostly affect hydrocarbon and carbon monoxide levels. The nine remaining strategies deal with stationary sources to reduce volatile organic compound emissions (non-methane hydrocarbons).

It is important to note that if the State Implementation Plan is not approved the Environmental Protection Agency may impose sanctions. Were these sanctions to take the form of the state's loss of sewer construction grants, serious set backs to the improvement of water quality in Long Island Sound would result.

The Department of Environmental Protection is responsible for both Air Quality and Coastal Management. This has facilitated consultation and coordination between the two programs and helps ensure the continuation of similar efforts. Coordination during both coastal management program development and SIP revision has occurred (See Section VI Plan Coordination) and resulted in compatible programming.

The Coastal Management program incorporates by reference all state and federal requirements established in accordance with the 1977 Clean Air Act Amendments. In addition, CAM's Coastal Goals and Policies (Section IV) address air quality on two levels. Generally, CAM's policy is "to achieve and maintain a level of air quality consistent with the requirements of the Connecticut State Implementation Plan and the Federal Clean Air Act". Specifically CAM's policy is "to achieve, maintain, or preserve, a level of air quality which is healthy, visually unobtrusive, and consistent with economic and urban development needs, and which minimizes property damage". Since mobile sources account for 60% of total non-methane hydrocarbon emissions, it is appropriate to refer to CAM's transportation related goals and policies. Other coastal uses which have the potential to pollute the air are subject to individual coastal use goals and policies as well as the policies for air quality under coastal site plan review requirements.

WATER QUALITY

Connecticut has long been in the forefront of water quality control. Significant progress has been and continues to be made toward the Federal goal of fishable-swimmable waters by 1983. The offshore waters of Long Island Sound are suitable for all seawater uses (class SA). The harbors and nearshore waters of the state have, for the most part, been upgraded in quality since the inception of the state's water pollution control programs. However, the dynamics of "water" preclude quality control as a purely coastal matter. It is an interstate, as well as intrastate, concern.

Historically, heavily settled areas coincide with river basins and thus, the location of most of the existing sources of water contamination. The Sound is the recipient of waters from eleven river basins. Three of these (the Housatonic River Basin, the Connecticut River Basin, and the Thames River Basin) drain areas which extend beyond Connecticut's political boundaries and empty directly into the Sound. Waters of degraded quality enter the state from drainage areas which include Canada, New Hampshire, Vermont, New York, Massachusetts and Rhode Island. For example, the major source of high PCB levels in the Housatonic is located in Massachusetts. Typical problems in all three basins have been low dissolved oxygen concentrations, and high levels of coliforms, solids, nitrogen and total phosphorus. Over 50% of the state's river miles do, however, meet state water quality standards and 86% are expected to be Class B-fishable/swimmable or better by 1983. The major in-state impediments to water quality control are combined sewers, municipal and residential discharges, and non-point sources.

Combined sanitary and storm sewer systems overload treatment facilities during heavy rains. This overflow of untreated waste water causes pollution problems in the Thames River downstream of Norwich, and in coastal waters of New Haven and Bridgeport.

According to DEP statistics, municipal sewage effluent is 80% of the problem of water quality. The sewage collectors and treatment facilities in Connecticut discharge approximately 200 million gallons per day of secondary effluent. Significant reduction in this source of pollution is expected through expenditure of funds now available for facilities. Municipal wastewater also enters the Sound from the Upper East River in New York.

Non-point source pollution is also of concern. Pollutants enter coastal waters from various non-specific sources. These general sources include: stormwater runoff, rainfall and wind-borne contaminants, resuspension of previously deposited pollutants, seepage from contaminated ground water and leaching from dumps and landfills. Erosion, sedimentation and flooding carry and deposit pollutants of unknown sources. Control of these non-point sources is often problematic.

Oil as a water pollutant results from accidental spills, discharge of oily bilge water, inadequately treated municipal and industrial wastewater, overflow of combined sewers, and runoff from land. Though the coastal area contains no refineries, it is a major transportation route for tankers and oil barges. Oil unloading and storage facilities are major coastal activities with over 50 associated hazardous material storage areas. Oil spills occur most commonly during the unloading process.

Recreational and commercial vessels contribute untreated or inadequately treated wastes to Long Island Sound. The mobility of these sources is an additional detriment, as the discharge is not limited to specific areas. The U.S. Coast Guard presently controls vessel discharges via sanitary device requirements and over-side discharges. (The DEP is drafting regulations for state control of vessel discharges, including the establishment of "no discharge zones", for inclusion in the 1980 update of State Water Quality Standards.)

The Department of Environmental Protection administers all state water pollution control programs. Connecticut's Water Pollution Control Program is considered one of the best in the United States. Its success is evidenced by the significant improvement made in water quality statewide.

In fulfilling the Federal Clean Water Act requirement (303)(e), Connecticut has developed a "Continuing Planning Process" for water pollution control. This includes the preparation of Water Quality Management Plans, Water Quality Standards, a Water Quality Strategy and an annual Water Quality Inventory Report.

State Water Quality Management Plans coordinate and direct water quality decisions on a river basin scale by identifying water quality problems and proposing measures (including effluent limitations and revision of water quality standards) to correct those problems. Phase I of these plans focused primarily on point source pollution. Phase II will deal further with point sources and also develop non-point source pollution control strategies.

State Water Quality Standards were approved most recently by the EPA in November 1977. The overall goal is for "fishable/swimmable" (classes B, SB or better) waters and includes a non-degradation policy for waters with existing quality better than established standards. An update of standards is due in November 1979.

Using the EPA delegated National Pollutant Discharge Elimination System (NPDES) program supported by state statutes, the state is controlling point source discharges. Most industrial permits issued in 1974 were reissued in 1978, some with modification. Since most municipal discharges met secondary treatment requirements, or were subject to state modification orders, no

municipal sewage treatment permits required reissue in 1978. New permits continue to be issued for acceptable new discharges. Monitoring and enforcement of NPDES compliance have been stressed. DEP also administers "401" Certification requirements for activities such as dredging, which may result in discharge into navigable waters.

Connecticut's "208" program began, in June 1976, as a planning process to assess non-point sources' contribution to the state's waters and to develop a program to control non-point sources. The culmination of the 208 program is the implementation of a management system to control non-point sources of pollution to the degree necessary to achieve swimmable/fishable waters. An inventory of existing regulations and controls at the local, regional, state, and federal levels, has been conducted by the regional planning agencies. Management strategy recommendations will be made once studies of specific problem areas are completed. Detailed studies of groundwater, industrial sites and sludge disposal sites, erosion and sedimentation, and urban and agricultural runoff are in their second year with completion expected by the end of 1979. These studies are being carried out by the regional planning agencies, the U.S. Geological Survey and U.S. Soil Conservation Service. Recommended water quality controls are expected to include amendments to existing DEP regulations, zoning changes and adoption of municipal ordinances, and, to some degree, newly drafted DEP regulations. Work efforts of Phase II of the aforementioned State Water Quality Management Plan are coordinated with ongoing 208 studies. Coordination with the Municipal Sewer Avoidance Program is being evaluated by a committee of the 208 Board. The voluntary sewer avoidance program has been established as a compliment to state water pollution control efforts by State statute (CGS Sec 7-245 to 7-273). Through this program (and existing state and federal funding) municipalities are encouraged to find alternatives to sewers and incorporate community growth plans with plans for sewerage and non-sewerage areas. A requirement of this program is development of a plan which would include information which already has been compiled and mapped by the RPA's under the 208 program. This information includes: water quality data, zoning, population density projections, soils, wetlands, and other natural resource data. (Note: DEP Deputy Commissioner of Environmental Quality Melvin J. Schneidmeyer is the Chairman of the 208 Board and a principal coordinator of DEP's water quality management planning and areawide 208 planning. Deputy Commissioner Schneidmeyer also serves as the DEP representative on the CAM Advisory Board and heads the DEP Division containing both the Water Compliance Unit and the CAM Program.)

The DEP also licenses the design, construction and operation of oil and chemical terminal facilities, collection and disposal of oil or chemicals. Through this Oil and Chemical Handling Facility Licensing Program DEP is authorized to set bond for potential clean-up costs of oil and chemical carriers, and to supervise and coordinate containment and clean-up of oil and chemical discharges.

Connecticut's Water Pollution Control Program and Coastal Area Management Program are both housed within the Department of Environmental Protection. Consultation and coordination between the two programs have occurred during program development and are an ongoing process (see Section VI-Plan Coordination.) CAM's general policy "to improve the quality of the coastal waters to a level consistent with Connecticut water quality standards and the requirements of the Federal Clean Water Act" is supplemented by a specific policy and several coastal use policies directly related to water pollution control. The specific policy toward water quality is "to restore or maintain the coastal water of the state to a quality consistent with its use for the perpetuation and propagation of fish, shellfish, and wildlife including breeding, feeding and nursery grounds, and with its use for recreation in and on the water; and specifically to attain at least a quality consistent with the standards for Class SB" (see Section IV). Furthermore, coastal uses with the potential to pollute the waters of the state will be subject to water quality goals and policies under coastal site plan review.

SECTION III

MANAGEMENT ISSUES AND PROBLEMS

INTRODUCTION

Under the existing management structure, many agencies at all levels of government, local, state and federal, influence the conservation and development of the Connecticut coastal area through a variety of planning, regulatory, funding, construction, acquisition, and other management authorities (see Section VI, Authorities). Counting relevant agencies at the state and federal level, and relevant commissions and their counterparts in each of Connecticut's thirty-six coastal municipalities, literally hundreds of agencies are involved in the management of the Connecticut coast, often with conflicting responsibilities or overlapping jurisdiction. Historically, these numerous authorities and agencies were established to solve or address various public problems and issues that arose or were anticipated as the state and the coastal area grew, developed, and became more urbanized. For example, the state regulatory authority over coastal structures was established almost forty years ago in response to severe devastation and destruction of the Connecticut coast caused by the hurricane of 1938. More recently, the state regulatory authority over tidal wetlands was established in 1969 as an increasing number of wetlands were being destroyed by the continuing urbanization of the state and as the general public became more aware of the value of tidal wetlands and the important role that tidal wetlands play in the functioning of the coastal environment.

Given the existence in Connecticut of these individual authorities that address many specific problems and issues of the coast, the Connecticut Coastal Management Program has been designed to correct two fundamental shortcomings of the present management system. These shortcomings are 1) lack of overall coordination and guidance of the authorities that are already in existence, and 2) inadequate consideration of coastal resources in the coastal decision-making process. Correction of these basic management deficiencies should, in turn, greatly facilitate the solution of many specific problems and issues which are either perpetuated or caused by these major management problems.

INADEQUATE COORDINATION

As noted above, Connecticut's impressive array of existing management authorities has been instituted gradually over the years in response to specific needs and problems. However, under the current management structure, there is a notable lack of overall coordination, guidance, uniformity or long range direction given to the application of these authorities. For example, neighboring municipalities which share common resources may use the same authorities to manage these common resources in greatly different and often contradictory ways. Overlapping or complimentary permit authorities at the state, local, and federal level are largely uncoordinated resulting in needless duplication of applications, hearings and other regulatory proceedings, unnecessary time delays and occasional conflicting decisions (see CAM Planning Report #21). Necessary commercial and industrial uses are

being constructed in locations which are harmful to coastal resources such as tidal wetlands, intertidal flats and shellfish beds, while suitable, vacant urban shorefront goes begging for development or redevelopment. Water-dependent or water enhanced uses such as marinas and port and harbor facilities are being converted to non-water dependent or non-water enhanced commercial, industrial, and residential uses which do not require valuable shorefront sites. Power plants, federally maintained dredged channels, and state or federally owned marine related recreational facilities and other facilities and resources of regional and national importance are actively solicited by some towns and shunned by others.

Compounding these coordination problems under the existing management structure is a critical absence of continuous oversight, monitoring, and evaluation of the effectiveness of existing authorities. For example, CAM analysis of the state-administered coastal structures, dredging, and tidal wetlands regulatory programs has revealed violation rates in excess of 80% for the period under study (see CAM Planning Report #21). These problems are just a few examples of the management difficulties that have resulted from lack of adequate coordination and monitoring of existing authorities.

INADEQUATE CONSIDERATION OF COASTAL RESOURCES

Historically in Connecticut, coastal resources and hazards have not been given adequate consideration in the coastal decision-making process. This situation has largely resulted from three interacting factors: 1) a historical lack of public awareness regarding the importance of coastal resource and hazard considerations in determining land and water use patterns (see Planning Reports #13 and 17), 2) inexplicit and unclear legal authority at the state and local level to consider coastal resources and hazards in making public decisions (see Planning Reports # 11, 14, and 18), and 3) a lack of available technical assistance and expertise in the area of coastal resource management to make effective resource based decisions (see Planning Report # 13).

Many specific problems and issues have resulted from this management deficiency. For example, over half of Connecticut's original tidal wetlands have been destroyed by encroaching development. Highly productive shellfish beds have been closed to harvesting and a number of large recreational beaches have been closed to swimming as a result of degraded water quality due in large part to inadequately treated domestic and industrial effluent and other non-point water pollution sources. Houses and other vulnerable buildings have been constructed in hazardous coastal flood and erosion prone areas and could be subject to considerable damage or destruction in the likely event that another storm as severe as, or more severe than, the 1938 hurricane should occur. Public access to the Connecticut shorefront has been impeded by a pattern of dense shorefront land use which makes it physically difficult to get to the water in many places and,

because of the pattern of small, highly valued land parcels, difficult to manage or develop the shorefront for public recreational use. Valuable plants and wildlife species have disappeared or all but disappeared from the Connecticut coast largely as a result of natural habitat destruction. Shorefront erosion has in many cases been accelerated or aggravated by the construction of shoreline stabilization structures. These are just a few of many examples of specific problems and issues that have resulted from inadequate consideration of coastal resource capacities and limitations by decision-makers at all levels of government: federal, state and local.

RESOLUTION OF MANAGEMENT ISSUES AND PROBLEMS

Connecticut's shared state-local coastal management program has been specifically designed to address and resolve the two fundamental management problems and issues discussed above. To resolve the problem of inadequate coordination, Connecticut has pursued an approach to coastal management which creates an active partnership between all levels of government: local, state and federal (see Section VI). A set of uniform, consistent, and comprehensive goals and policies have been developed to guide and coordinate decision-making at all levels of government (see Sections IV and VI). The responsibility for overall coordination of Connecticut's management program is assigned to the State Department of Environmental Protection within which a permanent coastal management unit will be established in the Office of the Commissioner. Specific provisions have been included in the amendments to the Coastal Management Act which require the DEP to coordinate all of its planning and regulatory programs for the coastal area based on the coastal goals and policies as promulgated by the Commissioner in administrative regulations (see Appendix C). In addition, the amendments to the Coastal Management Act give DEP the authority to coordinate its coastal regulatory programs with those of the federal Army Corps of Engineers, Coast Guard, and other applicable federal agencies. In addition, the CAM Act amendments require other state agencies to coordinate, and if necessary, revise their plans and programs to be consistent with the coastal goals and policies. The Department of Environmental Protection is also required to continuously monitor the effectiveness of the coastal management program and to propose revisions to the program as necessary to ensure that the authorities are coordinated and that the program operates effectively to solve specific coastal problems and issues and manage coastal resources.

At the local level, coastal municipalities are given the authority in the CAM Act amendments to revise their municipal plans and ordinances based on the coastal goals and policies. In addition, they are required to review coastal site plans and to apply the coastal goals and policies in making applicable permit, funding, and construction decisions (see Section VI, Authorities).

Under this management structure, the Department of Environmental Protection in its capacity as a central coordinating body for the coastal management program will also function as 1) a central source of information, expertise and technical assistance on coastal resources, issues, problems and needs, 2) a planning body to conduct long-range planning and research into the future needs of the coastal area, including major long-range planning needs in such areas as shorefront access and protection, shorefront erosion, coastal energy-related facilities, tidal wetlands, shellfish areas, and dredging and dredge spoil disposal, 3) an advocacy voice in state government for the coastal area, and 4) a body to coordinate public participation in the coastal decision-making process.

To resolve the problem of inadequate consideration of coastal resources in coastal decision-making processes, the amendments to the Coastal Management Act refine and clarify existing statutory authorities to allow and require coastal resources and hazards to be considered in decision-making processes at the state and local level. Coastal municipalities are explicitly given the authority to prepare municipal coastal programs through which municipal plans and ordinances would be revised to consider coastal resource capabilities and limitations. In addition, coastal municipalities are required to review coastal site plans, and to base their regulatory decisions in part on an assessment of the impact of the activity on coastal resources and hazards.

Under these refined, coordinated and focused authorities, relevant municipal agencies and state agencies will explicitly have the authority to address and correct specific management problems and issues related to environmental degradation and resource management. For example, municipalities will be able to make planning and regulatory decisions based on considerations such as the impact of the proposed plan or activity on tidal wetlands, beaches and dunes, water quality, shellfish productivity, or flooding and erosion.

While, as noted, there are many specific problems and issues to be managed by Connecticut's coastal management program, generally these problems and issues are one specific component of the two basic management needs identified above. One specific issue and problem common to many other coastal states is notable by its absence from the preceding discussion. While the impact related to the Outer Continental Shelf oil and gas exploration and development is an important issue in many coastal states, it is not expected to be a major issue in Connecticut largely because of major transshipment problems in the shallow Long Island Sound basin, the lack of large vacant parcels of shorefront property, the distance to lease areas of high interest, and on-shore air pollution problems (see Section II) which could preclude the construction of any major oil or gas processing facilities or major support bases.

SECTION IV. GOALS AND POLICIES

This section presents Connecticut's coastal goals and policies. These goals and policies were refined from the draft version presented in Planning Report No. 26 based on comments received from the Office of Coastal Zone Management, from state, local, and federal agencies, and from members of the general public. A summary of comments received from federal agencies on the goals and policies contained in Planning Report No. 26 is available from the CAM office.

Connecticut's coastal goals and policies are grouped under four major headings: Coastal Uses, Coastal Land and Water Resources, Environmental Quality, and Coastal Management Program Implementation. When backed by the authority of existing statutes for both state and local programs (see Section VI) and the added authority contained in the amendments to the Coastal Management Act (see Appendix C), these goals and policies will serve as the basis for making uniform and coordinated management decisions at all levels of government: state, local, and federal.

One goal statement is presented for each major heading. For most categories under the major heading, both general and a specific policy statement(s) are presented except in cases where one policy statement is adequate. The general policy states the intent of the policy without including details. The specific policies elaborate on the general policy statements providing additional detail appropriate for use by managers and decision makers. Statewide policies currently in effect covering such areas as economic development, general environmental quality, energy, housing, and transportation are not repeated in this set of coastal specific policies, although these coastal goals and policies were developed to be consistent with the overall statewide policies.

Following each policy, the primary state and municipal authorities that will be used to implement that policy are noted. For a thorough review and discussion of Connecticut's relevant coastal authorities and the management program organization, see Section VI.

In using these coastal goals and policies to guide planning, regulatory, and administrative decisions made pursuant to the management program, it is important to note that one or more policies from any of the four major headings may apply. For example, in making a regulatory decision about a proposed coastal structure in a tidal wetland, both the use policy for coastal structures and the resource policy for tidal wetlands would be considered. In addition, depending on the nature of the specific proposal, policies on coastal dredging, boating, coastal access, coastal hazard areas, water quality and circulation might also apply and would also be considered in making a balanced decision on the proposal.

A. COASTAL USE POLICIES

The policies contained in this section address major existing and potential uses in the Connecticut coastal area. These policies were developed for the management program or selected from existing state policies for inclusion in the management program based on the following considerations: 1) the existing or potential importance of the use in the Connecticut coastal area, and 2) the potential of the use to cause a major favorable or adverse impact on the resources and environmental quality of the coastal area. Where applicable, the sources of existing goals and policies are noted in parentheses.

Goal: To insure that the development, preservation or use of the land and water resources of the coastal area proceeds in a manner consistent with the capability of the land and water resources to support development, preservation or use without significantly disrupting either the natural environment or sound economic growth (CGS Section 22a-92)

1. General Development

- a. Policy: To manage uses in the coastal boundary through existing municipal planning, zoning, and other existing regulatory authorities and through existing state structures, dredging, wetlands, and other state siting and regulatory authorities, giving high priority and preference to uses and facilities which are dependent upon, or enhanced by location in or in proximity to, marine or tidal waters. Uses and facilities which are dependent upon location in or proximity to marine and tidal waters are defined as those uses or facilities which require direct access to or location in marine and tidal waters and that cannot reasonably be located inland. Such water dependent uses include but are not limited to marinas, recreational and commercial fishing and boating facilities, finfish and shellfish processing plants, waterfront dock and port facilities, shipyards and boat building facilities, water based recreational uses, navigation aides, basins, and channels, and industrial uses requiring large volumes of cooling or process water which cannot reasonably be located or operated at an inland site. Uses which are enhanced by location in or in proximity to marine or tidal waters are defined as those uses which do not functionally require direct access to marine or tidal waters but which are enhanced by location in or adjacent to marine or tidal waters. Water enhanced uses include but are not limited to non-water based recreational and commercial uses and facilities; multiple family residential uses; hotel, tourist, convention and resort facilities; and uses which provide general public access to marine or tidal waters.
- b. Policy: To resolve conflicts between competing uses on the shorelands adjacent to marine and tidal waters by giving preference to uses that minimize adverse impacts on natural coastal resources while providing long term and stable economic benefits.
(CGS Section 22a-92)

IMPLEMENTATION-- Policies a and b will be implemented at the local level through municipal planning, zoning and other agencies under their existing regulatory authorities and through the additional authorities contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal management programs and to review coastal site plans. At the state level, these policies will be implemented by DEP and other state agencies through existing planning and regulatory programs, as required by the amendments to the Coastal Management Act.

2. Sewer and Water Lines

- a. General Policy: To locate public sewer and water lines so as to encourage concentrated development and to discourage development of sensitive coastal resources.
- b. Specific Policy: To locate and phase sewer and water lines so as to encourage concentrated development in areas which are suitable for development; and to disapprove extension of sewer and water services into developed and undeveloped beaches, barrier beaches, and tidal wetlands, except, when necessary to abate existing sources of pollution, sewers that will accommodate existing uses with limited excess capacity may be provided.

IMPLEMENTATION-- Policies a. and b. will be implemented at the local level by municipalities through their sewer and water service control authorities and at the state level by DEP through existing approval and funding authorities over construction or extension of public and private sewer service systems.

3. Ports and Harbors

- a. General Policy: To promote, through existing state and local planning, development, promotional and regulatory programs, the use of existing urban ports and harbors for marine related uses, including but not limited to commercial and recreational fishing, boating and other water related or water enhanced commercial, industrial and recreational uses, and to minimize the risk of oil and chemical spills at port facilities.
- b. Specific Policy: (1) To promote, through existing state and local planning, development, promotional and regulatory authorities, the development, reuse, or redevelopment of existing urban ports giving high priority and preference to water dependent and water enhanced uses including but not limited to commercial and recreational fishing and boating uses, (2) to disallow uses which unreasonably congest navigation channels, or unreasonably preclude boating support facilities elsewhere in the port or harbor. Water dependent uses are defined as those uses and facilities which require direct access to, or location in, marine or tidal

waters and which cannot reasonably be located inland. Water dependent uses include but are not limited to marinas, recreational and commercial fishing and boating facilities, finfish and shellfish processing plants, waterfront dock and port facilities, shipyards and boat building facilities, water-based recreational uses, navigation aides basins, and channels, and industrial uses requiring large volumes of cooling or process water which cannot reasonably be located or operated at an inland site. Water enhanced uses are defined as those uses which do not functionally require direct access to marine or tidal waters but which are enhanced by location in or adjacent to marine or tidal waters and which provide general public access to marine or tidal waters. Water enhanced uses include but are not limited to non-water based recreational and commercial uses and facilities; multiple family residential uses; hotel, tourist, convention and resort facilities; and other uses which provide general public access to marine or tidal waters.

IMPLEMENTATION-- Policies a. and b. will be implemented at the local level by municipalities under planning, zoning, port, harbor, development and redevelopment authorities, and through the authorities contained in the amendments to the Coastal Management Act which provide for preparation of municipal coastal programs and review of coastal site plans. At the state level, these policies will be implemented by the Department of Environmental Protection under the regulatory authorities for the coastal structures, dredging, and tidal wetlands programs, by the Department of Economic Development under authorities for economic planning and promotion of business and commerce, and by the Department of Transportation under funding authorities for municipal harbor improvement projects and under DOT jurisdictional authority over harbors and navigable waterways.

- c. Specific Policy: (1) To encourage, through existing local and state planning, promotional, development and regulatory programs, the consolidation of petroleum product receiving systems in the state's major ports, if economically feasible, (2) to disallow offshore oil receiving systems that have the potential to cause catastrophic oil spills in the closed Long Island Sound estuary.

IMPLEMENTATION-- Part (1) of policy c. was a recommendation of the Long Island Sound Regional Study, a three year federal, level B water resources planning study completed in 1975 by the New England River Basins Commission. This recommendation needs further investigation to determine overall feasibility and to develop a specific implementation strategy involving both the public and private sectors. Public sector authorities that could be used to implement this policy include the Department of Environmental Protection coastal structures, dredging and terminal licensing authorities, the Department of Economic Development planning and promotional authorities, existing municipal planning and zoning authorities and the authority contained in the amendments to the Coastal Management Act which enable coastal municipalities

to prepare municipal coastal programs. In addition, the Department of Environmental Protection could provide funding for the feasibility study under funding authority contained in the amendments to the Coastal Management Act. Part (2) of policy c. will be implemented by the Department of Environmental Protection under the regulatory authorities for oil and chemical terminal and handling facilities.

- d. Specific Policy: To minimize the risk of spillage of petroleum products and hazardous substances, to provide effective containment and clean-up facilities for accidental spills, and to require onshore deballasting facilities to receive any fouled ballast water from tankers.

IMPLEMENTATION-- Policy d. will be implemented by the Department of Environmental Protection under the regulatory authority for oil and chemical terminal and handling facilities.

4. Coastal Structures (tidal, intertidal and navigable waters)

- a. General Policy: To discourage the filling of intertidal lands and to require that coastal structures be built so as to minimize interference with neighboring properties and to minimize adverse impacts on coastal resources.
- b. Specific Policy: To require that structures in tidal wetlands and coastal water be designed, constructed and maintained so that they minimize impacts on coastal resources, circulation and sedimentation patterns, water quality, and flooding and erosion, and so that they reduce to the maximum extent practicable the use of fill and reduce conflicts with the riparian rights of adjoining and adjacent landowners.
- c. Specific Policy: To disallow any filling of tidal wetlands and nearshore, offshore and intertidal waters for the purpose of creating new land from existing wetlands and coastal waters which would otherwise be undevelopable, unless it is found that there is no feasible alternative and the adverse impacts on coastal resources are minimal.

IMPLEMENTATION-- Policies a., b., and c. will be implemented by the Department of Environmental Protection under the tidal wetlands and coastal structures regulatory programs and by the Department of Transportation under general DOT authority over Connecticut harbors and navigable waterways.

5. Coastal Dredging

- a. General Policy: To encourage the maintenance and enhancement of existing federally maintained navigation channels, to reduce the need for future dredging by long range planning, and to require

the consideration of natural sedimentation patterns prior to allowing new dredging.

- b. Specific Policy: (1) To encourage, through the state permitting program for dredging activities, the maintenance and enhancement (i.e. minor alterations such as deepening or widening) of existing federally maintained navigation channels, basins and anchorages and to discourage the dredging of new or expanded federally maintained navigation channels, basins and anchorages, (2) to only provide state funding assistance for dredging projects which serve the general boating public.

IMPLEMENTATION - Policies a. and b. will be implemented by the Department of Environmental Protection under the authority for the dredging regulatory program and by the Department of Transportation under the authority for funding harbor improvement projects and the authority granting DOT jurisdiction over harbors and navigable waterways. In addition, these policies will be implemented by the Commissioner of the Department of Environmental Protection under authority contained in the amendments to the Coastal Management Act which direct the Commissioner to represent the state in all matters concerning the consistency of federal activities, projects, or proposals with Connecticut's coastal management program.

- c. Specific Policy: To reduce the need for future dredging by requiring that new or expanded navigation channels, basins and anchorages take advantage of existing water depths, circulation and siltation patterns and the best available technologies for reducing controllable sedimentation.

IMPLEMENTATION -- Policy c. will be implemented by the Department of Environmental Protection under the authority for the dredging regulatory program.

- d. Specific Policy: To disallow new dredging in tidal wetlands except where no feasible alternative exists and where adverse impacts to coastal resources are minimal.

IMPLEMENTATION -- Policy d will be implemented by the Department of Environmental Protection under the authority for the dredging and tidal wetlands regulatory program.

- e. Specific Policy: To initiate in cooperation with the federal government a long range planning program for the maintenance and enhancement of federally maintained navigation facilities in order to effectively and efficiently plan and provide for environmentally sound dredging and disposal of dredged materials.

IMPLEMENTATION -- Policy e. will be implemented by the Department of Environmental Protection through existing coordination authorities and the authority contained in the amendments to the Coastal Management Act which provides for DEP coordination with federal agencies and programs.

6. Fuel and Chemical Storage Facilities

- a. Policy: To discourage the siting of new tank farms and other new fuel and chemical storage facilities within the coastal boundary which can reasonably be located inland. To require any new storage tanks that must be located within the coastal boundary to abut existing storage tanks or to be in an urban industrial area and to be adequately protected against floods and spills in accordance with applicable standards.

IMPLEMENTATION -- Policy a will be implemented by the Department of Environmental Protection through the oil and chemical terminal and handling facility regulatory authorities and by municipalities through planning and zoning authorities and the authorities contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans.

7. Energy Facilities

- a. General Policy: To permit construction of power generating and storage facilities, transmission facilities for electricity and fuels, and telecommunication towers after balancing the need for such facilities with the protection of the environment, and by requiring a determination that the need for the facility outweighs adverse impacts.
- b. Specific Policy: "To provide for the balancing of the need for adequate and reliable public utility services at the lowest reasonable cost to consumers with the need to protect the environment and ecology of the state and to minimize damage to scenic, historic, and recreational values; to provide environmental quality standards and criteria for the location, design, construction and operation of facilities for the furnishing of public utility services at least as stringent as the federal environmental quality standards and criteria, and technically sufficient to assure the welfare and protection of the people of the state; to encourage research to develop new and improved methods of generating, storing and transmitting electricity and fuel and of transmitting and receiving television and telecommunications with minimal damage to the environment and other values described above; to require annual forecasts of the demand for electric power, together with identification and advance planning of the facilities needed to supply that demand and to facilitate local, regional, state-wide and interstate planning to implement the foregoing purposes." (CGS Section 16-50g)

- c. Specific Policy: "The power facility evaluation council shall not grant a certificate /of environmental compatibility and public need/, either as proposed or as modified by the council, unless it shall find and determine: (1) A public need for the facility and the basis of the need; (2) the nature of the probable environmental impact, including a specification of every significant adverse effect, whether alone or cumulatively with other effects, on, and conflict with the policies of the state concerning the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, forests and parks, air and water purity and fish and wildlife; (3) why the adverse effects or conflicts referred to in subdivision (2) of this subsection are not sufficient reason to deny the application; (4) in the case of an electric transmission line, (A) what part, if any, of the facility shall be located overhead, (B) that the facility conforms to a long-range plan for expansion of the electric power grid of the electric systems serving the state and interconnected utility systems and will serve the interests of electric system economy and reliability, and (C) that the overhead portions of the facility, if any, are consistent with the purposes of this chapter, with such regulations as the council may adopt pursuant to subsection (a) of section 16-50t, and with the Federal Power Commission "Guidelines for the Protection of Natural Historic Scenic and Recreational Values in the Design and Location of Rights-of-Way and Transmission Facilities" or any successor guidelines and any other applicable federal guidelines; (5) in the case of an electric or fuel transmission line, that the location of the line will not pose an undue hazard to persons or property along the area traversed by the line." (CGS Section 16-50p)

IMPLEMENTATION -- Policies a., b., and c. are being implemented by the state Power Facility Evaluation Council under the regulatory authority and criteria established by the Connecticut Public Utility Environmental Standards Act (CGS Chapter 277a).

- d. Specific Policy: To allow non-electric related energy facilities, including but not limited to gas processing plants and oil refineries to locate in the coastal boundary only if it can be demonstrated that such facilities (1) are water dependent, (2) cannot reasonably be located outside of the coastal boundary, (3) meet all applicable environmental standards, and (4) do not impose significant adverse impacts on resource uses in the national interest as defined in the amendments to the Connecticut Coastal Management Act. Water dependent facilities are defined as facilities which require direct access to or location in marine or tidal waters and which cannot reasonably be located inland.

IMPLEMENTATION -- Policy d. will be implemented at the state level by the Department of Environmental Protection through the air quality, water quality and coastal structures regulatory programs, through the oil and chemical terminal and handling regulatory

program and through the authority of the Commissioner of the Department of Environmental Protection to represent the state in all matters concerning the consistency of federal activities, projects, or proposals with Connecticut's coastal management program. At the local level, this policy will be implemented by municipalities through existing planning and zoning authorities and the authority contained in the amendments to the Connecticut Coastal Management Act which enable municipalities to prepare municipal coastal programs and to undertake coastal site plan reviews.

8. General Transportation Policy

- a. Policy: To make use of rehabilitation, upgrading, and improvement of existing transportation facilities as a primary means of providing for transportation needs in the coastal area.

IMPLEMENTATION-- Policy a. will be implemented at the state level by the Department of Transportation through the master transportation plan and by municipalities through the Council of Chief Elected Officials pursuant to their authority to endorse transportation improvement projects.

9. Coastal Railroads

- a. General Policy: To require that rail corridor improvements prevent significant adverse impacts on coastal resources, coastal access, recreational opportunities, and the scenic nature of the coast.
- b. Specific Policy: To require that new or improved shoreline rail corridors be designed and constructed so as 1) to prevent tidal and circulation restrictions and when practicable, to eliminate any such existing restrictions, 2) to improve or have a negligible adverse effect on coastal access and recreation, and 3) to enhance or not unduly impair the visual quality of the shoreline.

IMPLEMENTATION -- Policies a. and b. will be implemented by the Department of Environmental Protection under the authority for the state coastal structures, dredging, and tidal wetlands regulatory programs and the authority of the Commissioner of the Department of Environmental Protection to represent the state in all matters concerning the consistency of federal activities, projects, or proposals with Connecticut's coastal management program.

10. Coastal Highways

- a. Policy: To require that coastal highways and highway improvements

be designed and constructed so as to minimize adverse impacts on coastal resources; to require that coastal highway and highway improvements give full consideration to mass transportation alternatives; and to require that coastal highways and highway improvements where possible enhance but in no case decrease coastal access and recreational opportunities.

IMPLEMENTATION -- Policy a will be implemented at the state level by the Department of Transportation under highway planning coordination and development authorities and by the Department of Environmental Protection under the air quality, coastal structures, dredging, and tidal wetlands permit authorities. At the local level, this policy will be implemented by municipalities under municipal highway authorities, and under the authority contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans.

11. Coastal Airports

- a. Policy: To disallow the construction of major new airports and to discourage the substantial expansion of existing airports within the coastal boundary; to require that any necessary expansion or improvement of existing airports minimize adverse impacts on coastal resources, recreation or access.

IMPLEMENTATION -- Policy a will be implemented at the state level by the Department of Transportation under transportation planning and development authorities and airport regulatory authorities, and by the Department of Environmental Protection under coastal structures, dredging, tidal wetlands, and air quality regulatory programs. At the local level, this policy would be implemented by municipalities under municipal aviation regulatory authorities.

12. Fisheries

- a. General Policy: To manage the state's fisheries in order to promote the long-term benefits of commercial and recreational fishing.
- b. Specific Policy: To manage the state's fisheries in order to promote the economic benefits of commercial and recreational fishing, enhance recreational fishing opportunities, optimize the yield of all species, prevent the depletion or extinction of indigenous species, maintain and enhance the productivity of natural estuarine resources and preserve healthy fisheries resources for future generations.

IMPLEMENTATION -- Policies a and b will be implemented by the Department of Environmental Protection under the state fisheries management authorities.

- c. Specific Policy: To employ improved aquaculture techniques in order to revitalize and increase the number and extent of productive shellfish beds and to restore and maintain healthy and productive bottom conditions.

IMPLEMENTATION -- Policy c will be implemented by the state Department of Agriculture under shellfish planning, management, and leasing authorities and by coastal municipalities under shellfish management and licensing authorities.

- d. Specific Policy: To restore and enhance anadromous fish populations in Connecticut through an active management program which includes interstate cooperative agreements.

IMPLEMENTATION -- Policy d will be implemented by the Department of Environmental Protection under state fisheries management authorities.

13. Boating

- a. General Policy: To assure the optimal provision of public and private boating facilities while protecting coastal resources.
- b. Specific Policy: To require, where feasible, that new boating facilities (1) minimize disruption or degradation of natural coastal resources; (2) utilize existing altered, developed, or redevelopable sites, particularly in or near urban waterfront areas; (3) are located to assure optimal distribution of facilities to the statewide boating public; (4) utilize ramps and dry storage rather than slips in environmentally sensitive areas.

IMPLEMENTATION -- Policies a. and b. will be implemented at the local level by municipalities under existing planning and zoning authorities and under the authorities contained in the amendments to Connecticut's Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans. At the state level, these policies will be implemented by the Department of Environmental Protection through the authority for the coastal structures, dredging, and tidal wetlands regulatory programs and through the authority of the Commissioner of DEP to represent the state in all matters relating to the consistency of federal activities, projects or proposals with Connecticut's coastal management program.

- c. Specific Policy: To develop additional state-owned boat launching facilities and to maintain existing state-owned boat launching facilities in locations that increase the opportunities for boating access to coastal waters without causing adverse environmental impacts.

IMPLEMENTATION -- Policy c. will be implemented by the Department of Environmental Protection under parks and recreation planning, development, and management authorities.

14. Coastal Access

- a. General Policy: To encourage public access to the waters of Long Island Sound and to encourage recreational opportunities within the coastal area that are consistent with sound resource conservation procedures and constitutionally protected rights of private property owners. (CGS Section 22a-92)
- b. Specific Policy: To make effective use of state-owned coastal recreational facilities in order to expand coastal recreational opportunities including the development or redevelopment of existing state-owned facilities where feasible.

IMPLEMENTATION -- Policies a. and b. will be implemented by the Department of Environmental Protection under parks and recreation planning, development and management authorities.

- c. Specific Policy: To require as a condition in permitting new coastal structures (e.g. groins, jetties or breakwaters) that access to, or along, the public beach below mean high water must not be unreasonably impaired, and to require the removal of illegal structures below mean high water which obstruct passage along the public beach.

IMPLEMENTATION -- Policy c. will be implemented at the state level by the Department of Environmental Protection through the coastal structures regulatory program and through the authority of the Commissioner of DEP to represent the state in all matters relating to the consistency of federal activities, projects, or proposals with Connecticut's coastal management program. At the local level, this policy will be implemented by municipalities under their authority to remove obstructions in navigable waterways.

- d. Specific Policy: To require that reasonable public access be provided to the shorefront when granting public funds for erosion and flood control projects.

IMPLEMENTATION -- Policy d. will be implemented by the Department of Environmental Protection through the DEP authority to provide funding for flood and erosion control projects.

15. Cultural Resources

- a. Policy: To encourage the protection and preservation of the historical and archeological resources of the coastal area through such means as the creation of local historic districts,

and site designation on the national register of historic places.

IMPLEMENTATION -- Policy a. will be implemented by municipalities through existing planning, zoning, and historic district authorities and through the grant programs of the federal Heritage Conservation and Recreation Service.

B. COASTAL LAND AND WATER RESOURCES

This section contains policies for Connecticut's coastal land and water resources. Detailed maps at a scale of 1:24,000 showing the location of these coastal resources will be distributed to all coastal municipalities for use in conjunction with both the goals and policies and the site plan review guidelines (see Appendix D) in undertaking coastal site plan reviews and in preparing municipal coastal programs. Sample resource maps are presented in Appendix F .

These coastal resource policies are compatible and consistent with the coastal resource guidelines prepared for use in reviewing coastal site plans (see Appendix D).

Goal: To maintain the intrinsic form, function and interrelationship of Connecticut's coastal resource systems by assuring that growth and development proceeds in a manner compatible with the capabilities and limitations of coastal resources and to encourage the restoration and enhancement of the natural integrity of disturbed or modified systems. (Reference CGS Section 22a-1)

1. Coastal Bluffs and Escarpments

Definition: Naturally eroding shorelands marked by dynamic escarpments or sea cliffs with slope angles which constitute an intricate adjustment between erosion, substrate composition, drainage and degree of plant cover.

- a. General Policy: To maintain, where feasible, the function of coastal bluffs and escarpments as natural sources of sediment supply for adjacent shoreline features.
- b. Specific Policy: To manage coastal bluffs and escarpments so as to preserve their slope and toe; to discourage uses which do not permit continued natural rates of erosion; and to disapprove uses that accelerate slope erosion and alter essential patterns and supply of sediments to the littoral transport system.

IMPLEMENTATION -- Policies a. and b. will be implemented at the local level by municipalities under the authorities contained in the amendments to the Coastal Management Act which enable

coastal municipalities to undertake coastal site plan reviews and to prepare municipal coastal programs. At the state level, these policies will be implemented by the Department of Environmental Protection under the regulatory authority for the coastal structures program.

2. Rocky Shorefronts

Definition: Shorefront composed of bedrock boulders and cobbles. Rocky shorefronts are highly erosion resistant and are an insignificant source of sediments for other coastal landforms. They range from sea cliffs to gently sloping rock lands.

- a. General Policy: To conserve, to the maximum extent feasible, the capability of rocky shorefronts to dissipate wave energy and to support healthy intertidal communities.
- b. Specific Policy: To manage rocky shorefronts so as to insure that development proceeds in a manner which does not irreparably reduce the capability of the system to support a healthy intertidal community, to provide feeding grounds and refuge for shorebirds and finfish, and to dissipate and absorb storm and wave energies.

IMPLEMENTATION -- Policies a. and b. will be implemented at the local level by municipalities under the authorities contained in the amendments to the Coastal Management Act which enable coastal municipalities to undertake coastal site plan reviews and to prepare municipal coastal programs. At the state level these policies will be implemented by the Department of Environmental Protection under the regulatory authority for the coastal structures program.

3. Beaches and Dunes

Definition: Beach systems including barrier beach spits and tombolos, barrier beaches, pocket beaches, land contact beaches, and related dunes and sandflats.

- a. General Policy: To preserve the form and function of natural beaches and dunes and to encourage the restoration or enhancement of disturbed or modified beaches and dunes.
- b. Specific Policy: To preserve the dynamic form and integrity of natural beach systems in order to provide critical wildlife habitats, a reservoir for sand supply, a buffer for coastal flooding and erosion, and valuable recreational opportunities; to insure that coastal uses are compatible with the capabilities of the system and do not unduly interfere with natural processes of erosion and sedimentation; and to encourage the restoration and enhancement of disturbed or modified beach systems.

IMPLEMENTATION -- Policies a and b will be implemented at the local level by municipalities under the authorities contained in amendments to the Coastal Management Act which enable municipalities to undertake coastal site plan reviews and to prepare municipal coastal programs. At the state level, these policies will be implemented by the Department of Environmental Protection under the regulatory authorities for the coastal structures, dredging and water pollution control programs, under DEP approval authority over the construction or extension of municipal sewer service systems and under DEP funding authority for flood and erosion control projects.

4. Intertidal Flats

Definition: Very gently sloping or flat areas located between high and low tides composed of muddy, silty and fine sandy sediments and generally devoid of vegetation.

- a. General Policy: To encourage the preservation of intertidal flats as shellfish and finfish habitats and wildlife feeding areas.
- b. Specific Policy: To manage intertidal flats so as to preserve their value as a nutrient source and reservoir, a healthy shellfish habitat, valuable feeding areas for invertebrates, fish and shorebirds; to encourage the restoration and enhancement of degraded intertidal flats; to allow coastal uses that minimize change in the natural current flows, depth, slope, sedimentation, and nutrient storage functions; and to disallow uses that substantially accelerate erosion or lead to significant despoilation of tidal flats.

IMPLEMENTATION -- Policies a and b will be implemented by the Department of Environmental Protection under the regulatory authority for the coastal structures, dredging, and water pollution control programs.

5. Tidal Wetlands

Definition: Areas which border on or lie beneath tidal waters usually with vegetation, such as banks, bogs, salt marshes, swamps, meadows, flats or other lowlands subject to tidal action with surfaces which are at or below an elevation of one foot above local extreme high water. Includes regulated and unregulated areas as defined by Section 22a-29 of the Connecticut General Statutes.

- a. General Policy: "To preserve tidal wetlands and to prevent the despoilation and destruction thereof." (CGS Section 22a-28)

- b. Specific Policy: "To preserve tidal wetlands and to prevent the despoilation and destruction thereof" (CGS Section 22a-28) in order to maintain their vital functions as a source of high biological productivity, a habitat and nesting, feeding and refuge area for shorebirds, a habitat for shellfish, a nursery ground for larval and juvenile forms of marine organisms, a buffer for storm and wave energy; to encourage the rehabilitation and restoration of degraded tidal wetlands; and where feasible and environmentally acceptable, to encourage the creation of wetlands for the purposes of shellfish and finfish management, habitat creation and dredge spoil disposal. (Long Island Sound Study)

IMPLEMENTATION -- Policies a. and b. are being implemented at the state level by the Department of Environmental Protection under the regulatory authority for the tidal wetlands, coastal structures, dredging, and water pollution control programs. At the local level, these policies will be implemented by municipalities under the authorities contained in the amendments to the Coastal Management Act which enable coastal municipalities to undertake coastal site plan reviews and to prepare municipal coastal programs.

6. Freshwater Wetlands and Watercourses

Definition: Freshwater wetlands and watercourses including streams, rivers, brooks, creeks, inland wetlands, lakes and ponds and bogs.

- a. General Policy: "To provide for the protection, preservation, maintenance and use of the inland wetlands and watercourses by minimizing their disturbance and pollution." (CGS Section 22a-36)
- b. Specific Policy: "To provide for the protection, preservation, maintenance and use of the inland wetlands and watercourses by minimizing their disturbance and pollution; maintaining and improving water quality in accordance with the highest standards set by federal, state or local authority; preventing damage from erosion, turbidity or siltation; preventing loss of fish and other beneficial aquatic organisms, wildlife and vegetation and the destruction of the natural habitats thereof; deterring and inhibiting the danger of flood and pollution; protecting the quality of wetlands and watercourses for their conservation, economic, aesthetic, recreational and other public and private uses and values; and protecting the state's potable fresh water supplies from the dangers of drought, overdraft, pollution, misuse and mismanagement by providing an orderly process to balance the need for the economic growth of the state and the use of its land with the need to protect its environment and ecology in order to forever guarantee to the people of the state, the safety of such natural resources for their benefit and enjoyment and for the benefit and enjoyment of generations yet unborn." (CGS Section 22a-36)

IMPLEMENTATION -- Policies a and b are being implemented at both the state and local level under the regulatory authority for the inland wetlands and watercourses program. Following the establishment of coastal management in Connecticut, these policies will also be implemented by municipalities under the authorities contained in the amendments to the Coastal Management Act which enable municipalities to undertake coastal site plan reviews and to prepare municipal coastal programs.

7. Estuarine Embayments

Definition: A protected coastal body of water with an open connection to the sea in which saline sea water is measurably diluted by freshwater including tidal rivers, bays, lagoons, and coves.

- a. General Policy: To maintain and where possible restore or enhance the productivity, circulation, drainage characteristics and configuration of estuarine embayments.
- b. Specific Policy: To manage estuarine embayments so as to insure that coastal uses proceed in a manner that assures sustained biological productivity, the maintenance of healthy marine populations, and the maintenance of essential patterns of circulation, drainage, and basin configuration; and to protect, enhance, and allow natural restoration of eelgrass flats except in special limited cases, notably shellfish management, where the benefits accrued through alteration of the flat may outweigh the long term benefits to marine biota, waterfowl, and commercial and recreational finfisheries.

IMPLEMENTATION -- Policies a. and b. will be implemented by the Department of Environmental Protection under the regulatory authority for the coastal structures, dredging and tidal wetlands programs and by the Department of Agriculture under the management authority for the state aquaculture program.

8. Coastal Hazard Areas

Definition: Those land areas inundated during normal or extreme coastal storm events or subject to erosion induced by such events (all flood and erosion hazard areas identified by HUD-FIA mapping under the emergency and regular program phases).

- a. General Policy: To prevent development on coastal hazard areas that endangers public health, safety and welfare through the implementation of the HUD Flood Insurance Program.
- b. Specific Policy: To manage coastal hazard areas so as to insure that development proceeds in such a manner that hazards to life and property are minimized; and to promote non-structural

solutions to flood and erosion problems except in those instances where structural alternatives prove unavoidable and necessary to protect existing inhabited structures, infra-structural facilities, or water-dependent uses.

IMPLEMENTATION -- Policies a. and b. will be implemented by municipalities under the authorities contained in the amendments to the Coastal Management Act which enable municipalities to undertake coastal site plan reviews and to prepare municipal coastal programs. At the state level, these policies will be implemented by the Department of Environmental Protection through the regulatory authority for the inland wetlands, tidal wetlands, coastal structures and dredging programs.

9. Urban Shorefront

Definition: Those major port and harbor areas which have been so highly engineered and developed that their natural physiographic features or systems have been functionally impaired or substantially altered. These areas constitute the major coastal economic centers.

- a. General Policy: To promote, through existing state and local planning, development, promotional, and regulatory programs, the use of existing urban shorefront areas for marine related uses, including but not limited to commercial and recreational fishing, boating, and other water related or water enhanced commercial, industrial, and recreational uses.
- b. Specific Policy: To promote, through existing state and local planning, development, promotional, and regulatory authorities, the development, reuse, or redevelopment of existing urban shorefront areas giving high priority and preference to water dependent and water enhanced uses. Water dependent uses are defined as those uses and facilities which require direct access to or location in marine or tidal waters and which cannot reasonably be located inland. Water dependent uses include, but are not limited to marinas, recreational and commercial fishing and boating facilities, finfish and shellfish processing plants, waterfront docks and port facilities, shipyards and boat building facilities, waterbased recreational uses, navigation aides, channels, and basins, and industrial uses requiring large volumes of cooling or process water which cannot reasonably be located or operated at an inland site. Water enhanced uses are defined as those uses which do not functionally require direct access to marine or tidal waters but which are enhanced by location in or adjacent to marine or tidal waters and which provide general public access to marine or tidal waters. Water enhanced uses include, but are not limited to, non-water based recreational and commercial uses and facilities; multiple family residential uses; hotels, tourist, convention, and resort facilities; and other uses which provide general public access to marine or tidal waters.

IMPLEMENTATION -- Policies a. and b. will be implemented at the local level by municipalities under planning, zoning, port, harbor, development, and redevelopment authorities, and under the additional authorities contained in the amendments to the Coastal Management Act which provide for preparation of municipal coastal programs and for review of coastal site plans. At the state level, these policies will be implemented by the Department of Environmental Protection through the coastal structures, dredging, and tidal wetlands regulatory programs, by the Department of Economic Development through the economic development planning program, and the business and commerce promotional programs and by the Department of Transportation through its funding program for municipal harbor improvement projects and through general DOT authority over harbors and navigable waterways.

10. Islands

Definition: A portion of land surrounded on all sides by water.

- a. General Policy: To maintain the value of islands as critical wildlife habitat and recreational open space.
- b. Specific Policy: To manage islands in order to promote their use as critical habitats for those bird, plant and animal species which are indigenous or which are increasingly rare on the mainland; to maintain the value of islands as a major source of recreational open space; and to disallow uses which will unduly degrade or disrupt islands or their resource components.

IMPLEMENTATION -- Policies a. and b. will be implemented at the local level by municipalities under the additional authorities contained in the amendments to the Coastal Management Act which enable municipalities to undertake coastal site plan reviews and to prepare municipal coastal programs. At the state level these policies will be implemented by the Department of Environmental Protection through the regulatory authority for the coastal structures, tidal wetlands and water pollution control programs and the approval authority over construction and extension of public and private sewer service systems.

11. Nearshore Waters/Offshore Waters

Nearshore Waters, Definition: The area comprised of those waters and their substrates lying between mean high water and a depth approximated by the 10 meter contour.

Offshore Waters, Definition: The area comprised of those waters and their substrates lying seaward of a depth approximated by the 10 meter contour.

- a. General Policy: To maintain, enhance or restore the environmental quality of marine waters and submerged lands.
- b. Specific Policy: To manage the nearshore and offshore waters of the state through the maintenance, enhancement, or restoration of natural circulatory patterns, biochemical processes, basin configuration, and freshwater inputs; to insure the continued biological productivity and viability of Long Island Sound as a resource capable of supporting healthy and self-perpetuating marine, anadromous, and shell fisheries, a broad, Sound-wide spectrum of safe and healthy recreational activities, and an efficient system of marine commercial transportation and navigation.

IMPLEMENTATION -- Policies a and b will be implemented by the Department of Environmental Protection under the regulatory authorities for the coastal structures, dredging, and water pollution control programs, and under the management and licensing authorities for commercial fishing, sport fishing and boating. In addition, these policies will be implemented by the Department of Transportation under state jurisdictional authorities over harbors and navigable waterways and by the Departments of Agriculture and Health Services and by coastal municipalities under the management authorities for aquaculture and shellfishing.

12. Shorelands

Definition: Those land areas within the coastal boundary, exclusive of flood and erosion hazard areas, which are not subject to dynamic coastal processes. This category is comprised of typical upland features such as bedrock hills, till hills, and drumlins.

- a. Policy: To regulate shoreland use and development in a manner which minimizes adverse impact upon adjacent coastal systems and resources.

IMPLEMENTATION -- Policy a will be implemented at the local level by municipalities under planning and zoning authorities and under the authorities contained in the amendments to the Coastal Management Act which enable coastal municipalities to prepare municipal coastal programs and to review coastal site plans. At the state level, this policy will be implemented by the Department of Environmental Protection through the regulatory authority for the water pollution control program, and the approval and funding authority over construction or extension of public and private sewer service systems. In addition, this policy will be implemented by the Department of Transportation under DOT planning and development authority over bridges and highways.

C. ENVIRONMENTAL QUALITY

This section contains policies which address various aspects of environmental quality within the coastal boundary. Policies for some of the environmental quality categories presented here including air quality, water quality, visual quality and biological components, will apply to all or most of the coastal resources for which policies were presented in part B. Policies for other categories including upland drainage, circulation, erosion and sedimentation, and coastal flooding will apply more selectively to only one or a few coastal resources. In making management decisions based on Connecticut's coastal resource policy, all applicable environmental quality policies will be considered.

These environmental quality policies are compatible with the environmental quality guidelines prepared for use in reviewing coastal site plans (see Appendix D).

Goal: To enhance the quality of the coastal environment by maintaining or improving the quality of its important physical, chemical, and biological components and by minimizing the effect of coastal hazards.

1. Biological Components

Definition: Biological entities or communities including, but not limited to, the following:

Invertebrates

- shellfish
- molluscs
- crustacea

Vertebrates

- marine and anadromous finfish
- birds
- mammals
- reptiles
- amphibians

Vegetation

- marine
- wetland
- upland

- a. General Policy: To minimize the destruction of native biological communities.
- b. Specific Policy: To minimize the destruction of the native terrestrial and aquatic biota in order to 1) provide vital habitat

for wildlife, shellfish, finfish and vegetation, 2) maximize groundwater recharge and retention, and 3) maintain a healthy community function and interrelationship. To enhance and restore biological habitats where necessary and feasible, through appropriate land and water management techniques.

IMPLEMENTATION -- Policies a. and b. will be implemented at the state level by the Department of Environmental Protection under the regulatory authorities for the tidal wetlands, inland wetlands, coastal structures, and dredging programs and under the planning, management and acquisition authorities for the fish and water life, forestry, parks and recreation, open space acquisition, and other natural resource management programs. In addition, these policies will be implemented at the state level by the Department of Agriculture under the planning and management authority for the state aquaculture program and by the Power Facility Evaluation Council under the regulatory authorities for power facilities. At the local level, these policies will be implemented by municipalities under the management and licensing authorities for the local shellfish programs, under the taxation authorities for the farmland, forest land, and open space tax abatement program and under the authorities contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans.

2. Water Quality

Definition: A measure of the capacity of waters to support human uses (swimming, fishing, shellfishing, drinking) and healthy biological activities and functions as determined primarily by the following indicators:

- suspended solids (turbidity)
- nutrients
- toxic materials, heavy metals, pesticides
- dissolved oxygen
- pH
- temperature
- pathogens
- salinity

- a. General Policy: To improve the quality of the coastal waters to a level consistent with Connecticut water quality standards and the requirements of the Federal Clean Waters Act.
- b. Specific Policy: To restore or maintain the coastal water of the state to a quality consistent with its use for the perpetuation and propagation of fish, shellfish, and wildlife including breeding, feeding and nursery grounds, and with its use for recreation in and on the water; and specifically to attain at least

a quality consistent with the standard for Class SB.

IMPLEMENTATION -- Policies a. and b. will be implemented at the state level by the Department of Environmental Protection under the regulatory authorities for the water pollution control program and under the approved authority over construction or extension of public and private sewer service systems. At the local level, these policies will be implemented by municipalities under planning and development authorities for municipal sewerage systems, under regulatory authority over on-site sewage facilities, and under authorities contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans.

3. Circulation

Definition: The patterns, rates, and volumes of salt and fresh-water movements and their interaction in coastal waters as influenced by:

- tidal exchange and flushing
- freshwater input
- water column characteristics (stratification)
- basin characteristics, channel shapes

- a. General Policy: To maintain natural circulation patterns of estuarine and coastal waters and where feasible to restore or enhance disturbed or modified circulation patterns.
- b. Specific Policy: To maintain, enhance, or restore natural water column characteristics, natural patterns of water circulation, and fresh and saltwater exchange to the maximum extent feasible in order to sustain or enhance productive marine and estuarine biological communities.

IMPLEMENTATION -- Policies a. and b. will be implemented at the state level by the Department of Environmental Protection under the regulatory authorities for the coastal structures and dredging programs and by the Department of Transportation under jurisdictional authorities over harbors and navigable waterways and under funding authorities for harbor improvement projects. At the local level, these policies will be implemented by municipalities under port and harbor planning and development authorities and under the authorities contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans.

4. Erosion and Sedimentation

Definition: The removal of sediments from a particular location (erosion) and their transportation to and deposition (sedimentation) at another location as caused by natural forces whether normally occurring or man induced.

- a. General Policy: To minimize the adverse impacts of coastal erosion and sedimentation through the use of non-structural methods where practicable.
- b. Specific Policy: To maintain the natural relationship between eroding and depositional coastal landforms and to minimize the adverse impacts of erosion and sedimentation on coastal land uses through the promotion of non-structural mitigation measures. Structural solutions are permissible when necessary and unavoidable for the protection of infrastructural facilities, water dependent uses, or existing inhabited structures, and where there is no feasible, less environmentally damaging alternative and where all possible mitigation measures and techniques have been provided to minimize adverse environmental impacts.
- c. Specific Policy: To implement erosion control projects on the following general priority basis in accordance with policy b above, and as appropriate to the specific site conditions:

First Priority: Non-structural control

Second Priority: Combination structural and non-structural control

Third Priority: Structural control

Fourth Priority: No control

IMPLEMENTATION -- Policies a, b and c will be implemented at the state level by the Department of Environmental Protection under the regulatory authority for the coastal structures and dredging programs and under the funding authority for flood and erosion control projects. At the local level, these policies will be implemented by municipalities under planning and development authorities for flood and erosion control projects and under the authorities contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans.

5. Upland Drainage

Definition: The transmission of water, received as precipitation over land or through the subsurface.

- a. General Policy: To maintain a system of upland drainage which minimizes flooding, erosion, and sedimentation.

- b. Specific Policy: To maintain or, where feasible, enhance a system of watersheds and drainage capable of receiving, storing, and/or transmitting precipitation generated by normal and extreme events without inducing increased flooding, erosion, or sedimentation.

IMPLEMENTATION -- Policies a. and b. will be implemented at the state and local levels under the regulatory authority for the inland wetlands program. At the local level, these policies will be implemented by municipalities under the authority contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans. At the state level, these policies will be implemented by the Department of Environmental Protection under regulatory authorities for the coastal structures, dredging, and dams and reservoirs programs.

6. Coastal Flooding

Definition: The inundation of coastal lands as caused by regular or extreme tidal flooding.

- a. General Policy: To minimize the adverse impacts of coastal flooding through the use of non-structural methods where practicable.
- b. Specific Policy: To minimize the adverse impacts of extreme flooding on coastal land uses and to maintain the biological benefits of regular tidal inundation through the promotion of non-structural mitigation measures. Structural solutions are permissible when necessary and unavoidable for the protection of infrastructural facilities, water dependent uses or existing inhabited structures, and where there is no feasible, less environmentally damaging alternative and where all possible mitigation measures and techniques have been provided to minimize adverse environmental impacts.

IMPLEMENTATION -- Policies a. and b. will be implemented at the local level by municipalities under the provisions of the National Flood Insurance Program administered by the federal Department of Housing and Urban Development, under the planning and development authorities for flood and erosion control projects, under the authorities for municipal planning and zoning, and under the authorities contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans. At the state level, these policies will be implemented by the Department of Environmental Protection under the regulatory authorities for the coastal structures and dredging programs and under the funding authority for flood and erosion control projects.

7. Air Quality

Definition: A measure of the capacity of air to support healthy human, plant, and animal populations and the potential of air to cause property damage as determined primarily by the following components:

- particulates
- sulfur oxides
- carbon monoxide
- photochemical oxidants
- hydrocarbons
- nitrogen oxides

- a. General Policy: To achieve and maintain a level of air quality consistent with the requirements of the Connecticut State Implementation Plan and the Federal Clean Air Act.
- b. Specific Policy: To achieve, maintain, or preserve, a level of air quality which is healthy, visually unobtrusive, and consistent with economic and urban development needs, and which minimizes property damage.

IMPLEMENTATION -- Policies a. and b. will be implemented at the state level under the planning and regulatory authority for the state air pollution control program. At the local level, these policies will be implemented by municipalities under the regulatory authority for municipal air pollution control districts

8. Visual Quality

Definition: The visual aesthetic characteristics of a site and its surroundings including both natural and man-made components and the value of the site in providing points for panoramic view.

- a. General Policy: To preserve and where possible restore or enhance the scenic and visual qualities of the coastal area.
- b. Specific Policy: To preserve, enhance and restore the scenic and visual qualities of the coastal area by protecting scenic vistas, minimizing unnecessary alteration of natural landforms, and encouraging consideration of the visual characteristics of the surrounding area in the siting and design of development through local planning and zoning activities.

IMPLEMENTATION -- Policies a and b will be implemented at the local level by municipalities under the authority for municipal planning and zoning programs, under the regulatory authority

for the inland wetlands and watercourses program, under the authorities contained in the amendments to the Coastal Management Act which enable municipalities to prepare municipal coastal programs and to review coastal site plans, and under the regulatory authority for the Lower Connecticut River Conservation Zone. At the state level, these policies will be implemented under the regulatory authorities for the coastal structures, tidal wetlands, and inland wetlands and watercourses programs.

D. PROGRAM IMPLEMENTATION

This section presents policies which address governmental and programmatic aspects of implementing Connecticut's coastal management program.

Goal: To protect coastal resources and facilitate beneficial development by establishing a shared state-local coastal area management program which meets federal funding requirements and which promotes, at all levels of government, coordinated, informed, simplified and effective decision-making concerning the allocation of coastal resources.

1. Research

- a. Policy: To conduct, sponsor and assist research in coastal matters to improve the data base upon which coastal land and water use decisions are made. (CGS Section 22a-92)

IMPLEMENTATION -- Policy a. will be implemented by the Department of Environmental Protection under the general administrative authorities of the Department and under the authorities contained in the amendments to the Coastal Management Act which enable the Commissioner of DEP to fund coastal research and other special coastal studies.

2. Intergovernmental Coordination

- a. General Policy: To coordinate the planning and regulatory activities and public expenditures of public agencies in order to enhance development while affording maximum protection of coastal resources and processes.
- b. Specific Policy: To coordinate the activities of public agencies in order to insure that public expenditures enhance development while affording maximum protection to natural coastal resources and processes. (CGS Section 22a-92)

- c. Specific Policy: To coordinate planning and regulatory activities of public agencies at all levels of government to insure maximum protection of coastal resources while minimizing conflicts and disruption of economic development. (CGS Section 22a-92)

IMPLEMENTATION -- Policies a., b., and c. will be implemented by the Department of Environmental Protection under the coordination authorities contained in the amendments to the Coastal Management Act and under the general administrative authorities of the Department.

3. Regulatory Simplification

- a. Policy: To coordinate and simplify administration of state and federal coastal permit programs through such mechanisms as joint application forms, joint hearings, and concurrent decision-making deadlines.

IMPLEMENTATION -- Policy a. will be implemented by the Department of Environmental Protection under program coordination and administration authorities contained in the amendments to the Coastal Management Act.

4. Public Investment and Acquisition

- a. Policy: To give high priority to the acquisition of significant tidal wetlands and other natural areas, offshore islands, areas frequently flooded or storm damaged, and beaches of manageable size when available.

IMPLEMENTATION -- Policy a. will be implemented by the Department of Environmental Protection under the various funding and land acquisition authorities of the Department.

- b. Policy: To provide erosion control funds on the following priority basis in order to ensure a fair and equitable allocation of public funds for the mitigation of shoreline erosion and to obtain the greatest public benefit from state expenditures.

First Priority:	State-owned shorefront
Second Priority:	Municipally-owned shorefront with general public access
Third Priority:	Municipally-owned shorefront with restricted access
Fourth Priority:	Quasi-public owned shorefront with public access
Fifth Priority:	Quasi-public owned shorefront with restricted access
Sixth Priority:	Privately-owned shorefront

IMPLEMENTATION -- Policy b. will be implemented by the Department of Environmental Protection under the state funding authorities for flood and erosion control projects.

5. Public Participation

- a. Policy: To encourage and provide ample opportunity for public involvement and participation in the planning, implementation and continuing review of the state's coastal area management program.

IMPLEMENTATION -- Policy a. will be implemented by the Department of Environmental Protection under the general administrative authorities of the Department, under the requirements of the Connecticut Environmental Protection Act and under the requirements of the Connecticut Uniform Administrative Procedures Act.

6. Technical Assistance

- a. Policy: To provide adequate and continuing technical assistance to municipalities to develop and implement their coastal management programs.

IMPLEMENTATION -- Policy a. will be implemented by the Department of Environmental Protection under the technical assistance requirements contained in the amendments to the Coastal Management Act.

SECTION V. BOUNDARY

The coastal area of Connecticut, as defined in Section 22a-94 of the Connecticut General Statutes includes the land and water within Connecticut's thirty-six coastal fronting municipalities and the area delineated by the westerly, southerly, and easterly limits of the state's jurisdiction in Long Island Sound. These thirty-six municipalities include the following cities and towns: Greenwich, Stamford, Darien, Norwalk, Westport, Fairfield, Bridgeport, Stratford, Shelton, Milford, Orange, West Haven, New Haven, Hamden, North Haven, East Haven, Branford, Guilford, Madison, Clinton, Westbrook, Deep River, Chester, Essex, Old Saybrook Lyme, Old Lyme, East Lyme, Waterford, New London, Montville, Norwich, Preston, Ledyard, Groton and Stonington.

INLAND AND SEAWARD BOUNDARIES

Within the general coastal area, Section 22a-94 of the Connecticut General Statutes defines a coastal boundary for management purposes. On the landward side, this boundary is delineated by the continuous interior contour elevation of the one hundred year frequency coastal flood zone, as defined and determined by the National Flood Insurance Act, as amended (USC 42 section 4101, P.L. 93-234), or a one thousand foot linear setback measured from mean high tide, whichever is farthest. On the seaward side, this boundary is delineated by the seaward extent of the jurisdiction of the state. In addition, the following areas and resources are specifically included in the coastal boundary: (i) all coastal waters, (ii) all submerged lands under such waters, (iii) all intertidal zones, (iv) all islands surrounded by coastal waters, (v) all natural coastal resources including but not limited to all tidal wetlands and directly adjacent and abutting inland wetlands, bluffs and headlands, rocky shorefronts, water bodies such as rivers, streams, and creeks with measurable salinity and directly adjacent and abutting fresh waters, and beaches and sand dunes adjacent to tidal water. A map of the coastal boundary is presented in Figure A-1 of Appendix A.

Connecticut's coastal boundary was selected from a number of boundary options that were considered during the development of the coastal management program. Planning Report No. 20, published in May, 1977 outlined these boundary options and assessed the relative advantages and disadvantages of each major option. The inland boundary options considered were classified as one or a combination of the following basic approaches:

- 1) Fixed Linear Distance Boundaries
- 2) Political Boundaries
- 3) Natural Features Boundaries
- 4) Transportation Corridor Boundaries

- 5) Aesthetic Distance Boundaries
- 6) Long Island Sound Study Recommended Boundary
- 7) Multiple Zone Boundaries

The chosen option combines elements of a natural features boundary (based on the 100 year frequency flood elevation) and a fixed linear distance boundary (based on a 1,000 foot linear setback) and is a close variation of the boundary recommended by the Long Island Sound Study.*

As defined, the selected management boundary is reasonable for Connecticut's shared state-local program. It includes a sufficiently broad area to provide for effective management of all significant coastal resources and of all uses subject to management, yet it is not too large for efficient program administration by either level of government. The area within the coastal boundary includes all of the specific coastal resources which are required to be included within a state's coastal zone under section 305(b)(1) of the CZMA. In addition, the coastal boundary reasonably incorporates all shorelands strongly affected by or affecting coastal waters based on scientific criteria such as the geographic extent of flood and erosion hazard areas, proximity of the land to coastal waters, and bio-physical factors such as microclimatic variation and salt-spray influence.

EXCLUDED LANDS

In accordance with the Coastal Zone Management Act of 1972, Connecticut has excluded from its coastal boundary all land the use of which is by law subject solely to the discretion of or which is held in trust by the federal government, its officers or agents. A list of the major such excluded federal land is contained in Table A-1 of Appendix A. This list was compiled from information provided by federal agencies in response to an extensive CAM survey.

INTERSTATE BOUNDARIES

Connecticut has consulted with and coordinated the development of its coastal management program with the adjoining states of Rhode Island and New York. This consultation and coordination has occurred through direct program contact with the adjoining states as appropriate, and through the regular forum provided by the New England River Basins

* The Long Island Sound Study, completed in 1975, was a federal level B water resources planning study prepared by the New England River Basins Commission. Among numerous other recommendations, it called for Connecticut to establish a coastal management program with a management boundary which would be defined as the area from the state's territorial limits in Long Island Sound to 500 feet inland of mean high water or to the ten foot elevation whichever was larger.

Commission's New York-New England Coastal Zone Task Force. While Connecticut's coastal boundary is not precisely coterminous with either Rhode Island's adopted boundary or New York's proposed boundary, the boundaries are reasonably close and should not present any particular management difficulties or incompatibilities that cannot be handled through the existing interstate and regional coordinating mechanisms.

SECTION VI
LEGAL AUTHORITIES,
USES TO BE MANAGED AND PROGRAM
ORGANIZATION AND OPERATION

INTRODUCTION

The key to understanding Connecticut's approach to coastal management is that it builds on existing legal authorities at the state and local level rather than replacing them. Every use of Connecticut's coastal resources is already publicly regulated or controlled. Frequently, multiple clearances at both the state and local level are required before an activity affecting the coast is undertaken. The primary goal of Connecticut's coastal management proposal is to insure that in reviewing coastal uses, all government decision-makers take into account the impacts on coastal resources under a set of common policies.

There are several benefits to this approach. No new regulatory bodies are created. Regulatory jurisdiction over both uses and geographic areas remains unchanged. The impacts of uses on both coastal resources and future water-dependent development opportunities are carefully considered by all agencies with regulatory, planning and development authority. Established and well understood regulatory procedures and criteria are altered only insofar as necessary to insure consideration of coastal impacts. The possibility of fragmented and uncoordinated decision-making is substantially reduced. Finally, if the program receives federal approval, application of the CZM Act "federal consistency" provisions will lead to a substantial reduction in the number of conflicts with federal agency regulatory and development decisions.

Connecticut's choice of using existing state and local legal authorities for coastal management evolved from numerous studies and public meetings. During the fall of 1976 twenty-three issue identification workshops were conducted for the CAM Program by the Connecticut League of Women Voters. Planning Reports No. 4, 5 and 6 investigated the federal CZM Act requirements and the approaches of other states to coastal management. Existing state level programs were studied in Planning Reports No. 16 and 18. Various aspects of Connecticut's existing municipal regulatory programs including special districts were evaluated in Planning Reports No. 6, 8, 11, 12, 13 and 14. Options and recommendations for Connecticut's programs were presented in Planning Reports No. 20 and 21 and in a Citizen's Handbook on CAM. In the summer of 1977 nine regional workshops were held and the CAM Advisory Board voted to recommend a shared state and local program.

The 1978 session of the General Assembly, after numerous public hearings and meetings, enacted the Coastal Management Act (Public Act 78-152), establishing a boundary, broad goals and policies and a legislative Interim Study Committee on Coastal Management. To assist the Interim Study Committee, the CAM staff prepared Planning Report No. 27 which explained in detail the implementation of a state and local approach and included draft legislation. The Interim Study Committee held 10 public meetings and on January 1, 1979 recommended that the 1979 session of the General Assembly consider the shared state and local approach with voluntary revision of municipal plans and zoning regulations but with mandatory municipal review of coastal development projects. The General Assembly is currently considering the Interim Study Committee's recommendations.

THE CONNECTICUT COASTAL MANAGEMENT ACT

The legal authority for insuring that state and local agencies consider coastal impacts under a set of unified goals and policies is the Coastal Management Act (Chapter 444 of the Connecticut General Statutes, Sections 22a-90 through 22a-96, see Appendix B) and proposed amendments to the Act. The Coastal Management Act was passed in the 1978 session of the General Assembly as Public Act 78-152. The proposed amendments (see Appendix C) are currently being considered by the General Assembly. The Coastal Management Act and proposed amendments contain the following specific authorities.

Coastal Management Goals and Policies

A list of broad policies and goals is provided (CGS Section 22a-92 and proposed amendments, section 2). The Commissioner of Environmental Protection is also given the authority to promulgate, by regulation, more specific goals and policies to guide both state and local decisions (proposed amendments, section 18). These goals and policies would be based on the goals and policies listed in Section IV of this document.

Coastal Management Boundary

A coastal management boundary, to be mapped by the Commissioner of Environmental Protection, is defined as: (a) the seaward extent of the state's jurisdiction over the waters of Long Island Sound, (b) coastal rivers of the state to their saltwater extent, and (c) a three part inland boundary delineated by the U.S. HUD Flood Insurance lines, or 1,000 feet from the mean high water mark or 1,000 feet from tidal wetland boundaries, whichever line is farthest inland. (CGS Section 22a-94 and proposed amendments, section 4). A full discussion of the boundary can be found in Section V of this document.

State Regulatory Programs

Administrators of coastal-related state regulatory programs are required to consider the coastal goals and policies in making permit decisions (proposed amendments, section 24).

State Development Projects

State agencies must consider the coastal goals and policies in designing and constructing state-sponsored development projects. Environmental impact statements which are already required for significant state projects (CGS Sections 22a-1b through 22a-1d) must include an analysis of projects' impacts on the coast (proposed amendments, section 23).

State Plans

Major state plans concerning the coastal area must be revised to insure consistency with the coastal goals and policies (CGS Section 22a-96(c) and proposed amendments, section 23). Plan coordination is discussed at greater length later in this Section.

Municipal Coastal Site Plan Review

In making regulatory decisions concerning private and municipal developments, municipal regulatory agencies are required to consider coastal impacts and to follow the coastal goals and policies in addition to the criteria they currently consider (proposed amendments, sections 11 through 16).

DEP Commissioner's Right as a Party

The Commissioner of Environmental Protection is given the authority to intervene as a party or appellant to specific site plan review decisions at the municipal level in order to insure proper consideration of coastal impacts and the coastal goals and policies (proposed amendments, section 22).

Municipal Coastal Programs

Municipalities may, at their option, prepare a comprehensive coastal program consisting of both revisions to the municipal plan of development and revisions to local zoning regulations and other municipal land use regulations and ordinances conforming to and implementing the revised plan of development (proposed amendments, sections 7 through 10).

Municipal Right as a Party

Municipalities have the authority to intervene as a party to state regulatory decisions affecting the coastal area in order to insure that the state gives proper consideration to coastal impacts and the coastal goals and policies (proposed amendments, section 21).

Coordination of State and Federal Programs

The Commissioner of Environmental Protection has the authority to enter into agreements with federal agencies to simplify and coordinate administration of state and federal permit programs (CGS Sections 22a-96(a) and (b)). The Commissioner is also designated as the state's representative in all matters concerning the application of the CZM Act's "federal consistency" provision (CGS Sections 22a-96(c) and (d)). The state's approach to federal consistency is discussed later in this Section.

State Assistance to Municipalities

The Commissioner of Environmental Protection is required to provide coastal municipalities with financial aid (proposed amendments, section 6), technical assistance (proposed amendments, section 5), including resource maps (see Appendix F for sample maps), a model municipal program, which has been prepared (see Appendix E), and advisory guidelines for evaluating coastal impacts, which have also been prepared (see Appendix D).

EXISTING STATE AND MUNICIPAL REGULATORY, DEVELOPMENT AND PLANNING AUTHORITIES SUBJECT TO THE COASTAL MANAGEMENT ACT'S REQUIREMENTS

To gain a full appreciation of Connecticut's approach to coastal management, the preceding discussion of the requirements of the Coastal Management Act (as amended) must be supplemented by a description of state and local regulatory, development and planning authorities subject to those requirements. Table 2 describes existing state programs subject to the Coastal Management Act requirements. Table 3 describes municipal programs subject to the requirements. Columns 1 and 2 of both tables give the title and statutory authority of programs affected by the Coastal Management Act. Column 3 provides a brief description of each program's jurisdiction and procedures. Column 4 lists the state or local agency responsible for program administration. Finally, column 5 gives a brief description of the changes in program administration effected by the Coastal Management Act requirements.

TABLE 2A - STATE REGULATORY AUTHORITIES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
1. Programs regulating water resources and water related land uses				
a. Structures and fill in coastal waters.	Coastal Structures Law C.G.S. Sec. 25-7b to 25-7f.	All structures, filling and work incidental thereto, in all tidal and coastal waters seaward of the mean high water mark, require a permit.	DEP-Water Resources Unit.	Permit review process will include consideration of coastal goals and policies (Sec. 24, Proposed Amendments to Coastal Management Act).
b. Dredging and removal of sand and gravel from tidal waters.	Coastal Dredging Law C.G.S. Sec. 25-10 to 25-18	The taking and removal of sand, gravel or other materials from lands under tidal and coastal waters seaward of the mean high water mark, requires a permit.	DEP-Water Resources Unit	Permit review process will include consideration of coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act).
c. All activities in tidal wetlands	Tidal Wetlands Law C.G.S. Sec. 22a-28 to 22a-35	All uses, except a) mosquito control ditching conducted by the State Health Dept. under the authority of C.G.S. Sec. 19-50 and 51, b) DEP conservation activities c) construction and maintenance of navigation aids, and d) emergency health measures in all marsh areas at or below an elevation of one foot above local extreme high water and capable of growing salt tolerant flora, require permits.	DEP-Water Resources Unit.	Permit review process will include consideration of coastal goals and policies (Sec. 24, Proposed Amendments to Coastal Management Act)
d. Inland wetlands and watercourses	Inland Wetland and Watercourses Law CGS Sec. 22a-36 to 22a-45 and RCSA Sec. 22a-39-1 to 13.2	All uses except a) agricultural uses, b) residential homes approved prior to passage of the law (1972), c) farm ponds of 3 acres or less, d) boat anchorages, e) uses incidental to residential enjoyment, f) public water supply systems, g) conservation uses, and h) passive recreation, in or upon all land, including submerged land consisting of poorly drained, alluvial or flood plain soil types as defined by the USGS Soil Conservation Service and all bodies of water, natural or artificial, but excluding tidal wetlands, require permits.	DEP-Water Resources Unit (and municipal inland wetland agencies subject to DEP administrative regulations and oversight).	Permit review process will include consideration of coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act)

TABLE 2 A-STATE REGULATORY AUTHORITIES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
e. Dams and Reservoirs	Dams and Reservoirs Law C.G.S. Sec. 25-110 to 25-119.	All dams, dikes, reservoirs and associated facilities and any site of a dam, dike or reservoir, require permits.	DEP-Water Resources Unit	Permit review process will include consideration of coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act)
2. Flood Control a. Stream Channel Encroachment Line Program	C.G.S. Sec. 25-4a to 25-4f.	Lines are determined by DEP, along shorelines of any tidal or inland waterway or flood prone area considered for stream clearance or any form of flood control or flood alleviation measure, within which any obstruction, encroachment or hindrance require permits.	DEP-Water Resources Unit	Permit review process will include consideration of coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act)
3. Water Pollution a. Water Pollution Discharge	Water Pollution Control Laws: C.G.S. Sec. 25-26 to 25-27 C.G.S. Sec. 25-54a to 25-54g C.G.S. Sec. 25-54aa	Any source, actual or potential, of water contamination for all waters of the state including groundwater, is subject to pollution abatement orders and requires permits.	DEP-Water Compliance	Permit review process will include consideration of coastal goals and policies (Sec. 24, Proposed Amendments to Coastal Management Act)
b. Sewerage	Water Pollution Control Laws: C.G.S. Sec. 25-26 to 25-54b 25-54g 25-54i 25-54o to 25-54z	Permits required for all sewer lines and sewage treatment plants at any site proposed for sewer lines or sewage treatment plants	DEP-Water Compliance	Permit review process will include consideration of coastal goals and policies (Sec. 24, Proposed Amendments to Coastal Management Act).

TABLE 2 A-STATE REGULATORY AUTHORITIES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
3. b. continued	Municipal Sewer Avoidance Program P.A. 78-154 C.G.S. Sec. 7-245 to 7-273 and Sec. 25-54 State Grants for pollution abatement facilities. C.G.S. Sec. 25-54r to 25-54z	DEP establishes regulations for municipal administration of sewer avoidance programs and facilities. (Program is voluntary). The State provides financial assistance to municipalities constructing pollution abatement/water pollution control facilities	DEP-Water Compliance Unit and municipal Water Pollution Control Authorities DEP-Water Compliance Unit	Grant application review will include considerations of coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act)
4. Air Pollution Control	Air Pollution Control C.G.S. Sec. 19-505 to 19-522, and RCMA Sec. 19-508-1 to 19-508-100	Any source of air contamination for the state's entire outdoor atmosphere requires permits.	DEP-Air Compliance Unit	Permit review will include consideration of coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act)
5. Navigation	Harbor Navigation Laws C.G.S. Sec. 15-1 to 15-31 Channels C.G.S. Sec. 25-3d	All vessels and all harbors of Long Island Sound are subject to regulation DEP designates and lays out channels and boat basins in lands under tidal and coastal waters for access to and from deep water to uplands.	Dept. of Transportation and local harbor masters subject to DOT supervision. DEP-Water Resources Unit	All regulation will be consistent with coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act) All regulation will be consistent with coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act)

TABLE 2 A-STATE REGULATORY AUTHORITIES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
5. continued	Coastal Dredging Law C.G.S. Sec. 25-10 to 25-18 (See Program A. 2 above)		DEP-Water Resources Unit	
	Boating Laws. C.G.S. Sec. 15-121 to 15-157	All sea lanes and port navigation and anchorage patterns in all navigable waters of the state are subject to DEP regulation.	DEP	All regulation will be consistent with coastal goals and policies
6. Boating	Boating Laws: C.G.S. Sec. 15-121 to 15-157.	All vessels in all navigable waters of the State are subject to DEP regulation. DEP has the authority to 1) classify all vessels and waters for the purposes of regulating them, 2) regulate navigation aids, 3) establish sea lanes, 4) prescribe standards for safety devices, 5) restrict certain water for specific boating uses, 6) restrict waters for use in water skiing and scuba diving, 7) plan boating facilities, 8) recommend (with State Health Dept.) improved boating sanitation 9) assist State Department of Transportation in regulating sea plane activity, 10) coordinate with federal agencies regulating boating.	DEP	All permitting, licensing, and regulation will be consistent with coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act)
7. Fisheries a. Shellfishing	State Shellfisheries C.G.S. Sec. 26-187 to 26-237.	Taking of shellfish and lease and cultivation of all designated state shellfish beds are subject to police power and proprietary controls.	Dept. of Agriculture-Aquaculture Division	Shellfish beds will be designated Areas of Particular Concern. All permitting and regulation will be consistent with coastal goals and policies (Sec.24, Proposed Amendments to Coastal Management Act).

TABLE 2 A- STATE REGULATORY AUTHORITIES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
7. continued	Shellfish Sanitation C.G.S. Sec. 19-55	Taking of shellfish from polluted waters may be prohibited	Department of Health	
7. b Commercial and Recreational Fishing	State Fisheries and Game Laws: C.G.S. Sec. 26-1 to 26-186	All recreational and commercial fishing, hatcheries, private ponds and streams in all waters of the state are subject to police powers. Specific authorities include: 1) regulation of spawning, 2) regulation of seasons, 3) regulation of all commercial hatcheries, and fishing, 4) specific limits on quantities and types of species, and use of nets. A license is required for inland fishing and all commercial fishing. Marine fishing is regulated by specific standards.	DEP	All permitting, licensing and regulation will be consistent with coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act)
8. Solid Waste	Solid Waste Management Law: C.G.S. Sec. 19-524a to 19-524o; RCSA Sec. 19-524-1 to 19-524-14.	All solid waste disposal sites are subject to regulation. Disposal sites of solid waste with a capacity of more than five tons per year and operators of solid waste disposal sites, require permits.	DEP-Solid Waste Management Unit	Permit review will include consideration of coastal goals and policies (Sec. 24, Proposed Amendments to Coastal Management Act)
9. Oil and Chemical Handling	Oil and Chemical Handling Law: C.G.S. Sec. 25-54bb to 25-54kk; RCSA Sec. 25-54cc-1 to 25-54cc-7	Any site where oil and chemical terminal or handling facilities are located is subject to police powers. Uses subject to regulation include: 1) all terminals for the loading or discharge of oil or chemicals and associated equipment, 2) all discharges or spills of oil or chemicals on the land or into the waters of the state, 3) oil and chemical spill containment equipment, and 4) persons collecting waste oils or chemicals or involved in spill removal or containment.	DEP-Hazardous Substances Unit	Permit review and promulgation of regulations will include consideration of coastal goals and policies. (Sec. 24, Proposed Amendments to Coastal Management Act).

TABLE 2 A-STATE REGULATORY AUTHORITIES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
10. Power Facilities	Public Utilities Environmental Standards Act; C.G.S. Sec. 16-50g to 16-50y; and RCSA Sec. 16-50g-1 to 43; 16-50-i-1 to 43; 16-50r-1 to 2; 16-50z-1 to 4.	Any site in the state proposed as the location for a power facility is subject to regulation. Specifically regulated are: 1) electric transmission lines with a design capacity of 69 kilovolts or greater, 2) full transmission lines extending 1,000 feet or more, 3) gas sq. in. or greater, 4) any electric generating or storage facility and associated equipment, and 5) substations, switchyard and associated facilities having a substantial adverse environmental impact.	Connecticut Power Facilities Evaluation Council (PPEC)	PPEC stating authority pre-emptes all other state and local land and water use regulation. However, C.G.S. Sec. 16-50 p(2) and 16-50 p(3) require that prior to granting a certificate the council find and determine the "nature of the probable environmental impact, including a specification of every significant adverse effect, whether alone or cumulatively with other effects, on, and conflict with the policies of the state concerning, the natural environment, ecological balance, public health and safety, scenic, historic and recreational values, forests and parks, air and water purity and fish and wildlife" and "why the adverse effects or conflicts referred to...are not sufficient reason to deny the application." As additional environmental criteria, coastal goals and policies will be included considerations. (Sec 24, Proposed Amendments to Coastal Management Act).

TABLE 2B-STATE DEVELOPMENT PROJECTS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
1. State Flood and Erosion Control Projects	State assistance for flood control and beach erosion C.G.S. Sec. 25-69 to 25-83a.	The state is authorized to pay for the total cost of flood and erosion control projects benefiting state property, 66% of the cost of such projects benefiting municipal property and 33% of the cost of such project benefiting private property.	DEP-Water Resources Unit	All State development projects are subject to Connecticut Environmental Protection Act environmental impact statement requirements. All state development projects will be consistent with coastal goals and policies. (Sec. 23, Proposed Amendments to Coastal Management Act)
	Executive Order 18 Ella Grasso, Governor, June 1, 1977	State agencies are required to follow HUD-FIA standards in undertaking development projects in flood plains		
2. Harbor and Port Development	State Port Development C.G.S. Sec. 13b-53	The State may acquire own, construct, maintain or operate port facilities	Department of Transportation-Bureau of Waterways	All state development projects are subject to Connecticut Environmental Protection Act environmental impact statement requirements. All state development projects will be consistent with coastal goals and policies (Sec. 23 Proposed Amendments to Coastal Management Act)
	State Grants-in-Aid for Harbor Improvement Projects C.G.S. Sec. 13b-57.	The state may pay up to 2/3 of the cost of municipal harbor improvements up to a limit of one million dollars.	Department of Transportation-Bureau of Waterways.	

TABLE 2 B-STATE DEVELOPMENT PROJECTS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
3. Park and Recreation Facilities	State Park and Recreation Laws C.G.S. Sec. 22a-21 to 22a-27. Sec. 23-6 to 23-9 Sec. 23-10 to 23-18 Sec. 23-24 to 23-27 Sec. 22a-25 Sec. 26-16	The Commissioner of DEP has broad authority to purchase or condemn property for recreational uses. The Commissioner also receives and disburses federal funds, for purchase of property by municipalities for recreational use.	DEP-Parks and Recreation Unit	1. C.G.S. Sec. 22a-25 authorizes the Commissioner of DEP to acquire lands and waters for "any purpose or activity relating to or compatible with the functions of the department of environmental protection." 2. All state development projects are subject to Connecticut Environmental Protection Act environmental impact statement requirements. 3. All state development projects will be consistent with coastal goals and policies (Sec. 23, Proposed Amendments to Coastal Management Act).
4. Conservation Reserves and Research Facilities	State Open Space, Conservation, and Recreation Laws; C.G.S. Sec. 26-3 Sec. 23-5a to 23-5f Sec. 22a-25 Sec. 22a-6 Sec. 26-99 Sec. 26-102	The Commissioner of DEP has broad authority to purchase or condemn land cultivated for conservation and research uses and to control uses of such lands and waters.	DEP	1. C.G.S. Sec. 22a-25 authorizes the commissioner of DEP to acquire lands and waters for "any purpose or activity relating to or compatible with the functions of the department of environmental protection". 2. All state development projects are subject to Connecticut Environmental Protection Act environmental impact statement requirements. 3. All state development projects will be consistent with coastal goals and policies. (Sec.23, Proposed Amendment to Coastal Management Act)

TABLE 2 B--STATE DEVELOPMENT PROJECTS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
5. Transportation				
a. Highways	State Transportation Law: C.G.S. Chapters 236-242	State Department of Transportation is responsible for planning and constructing state highways (including interstate highways)	Dept. of Transportation Bureau of Highways.	All state development projects are subject to Connecticut Environmental Protection Act environmental impact statement requirements. All state development projects will be consistent with coastal goals and policies. (Sec. 23, Proposed Amendments to Coastal Management Act)
b. Airports	State Transportation Law: C.G.S. Sec. 13b-46 to 13b-49.	The State may establish, maintain and operate, and may expand, an airport at any location within the state	Dept. of Transportation Bureau of Aeronautics	
c. Railroads	State Transportation Law: C.G.S. Sec. 13b-32 to 13b-38	The Department of Transportation is authorized to assist in the development and improvement of motor carrier and rail facilities and services	Dept. of Transportation	
6. Economic Development	Connecticut Development Authority-C.G.S. Sec. 32-10 to 32-23m	The Connecticut Development Authority has broad authority to construct, purchase, manage or help finance development projects including explicitly pollution control facilities, ferry boats, and recreational facilities.	Department of Economic Development Connecticut Development Authority	All state development projects are subject to Connecticut Environmental Protection Act environmental impact statement requirements. All state development projects will be consistent with coastal goals and policies. (Sec. 23, Proposed Amendments to Coastal Management Act)

TABLE 2C -STATE PLANS SUBJECTS TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
1. State Master Transportation Plan	C.G.S. Sec. 13b-15	The commissioner of DOT is authorized to develop and revise annually a comprehensive long-range master transportation plan. The plan must include: 1) Recommendations for planning, engineering, acquisition of rights-of-way, construction, reconstruction, rehabilitation and modernization of transportation facilities; 2) consideration of present and projected travel volumes, safety, maintenance costs, long-range land use, environmental impact and economic development patterns; 3) indication of the order of priority of need for improvements within each mode of transportation. Consultation with the public and coordination and cooperation with government and private agencies are provided for.	Department of Transportation (DOT)	All state plans must be consistent with coastal goals and policies within 18 months of the effective date of proposed amendments to Coastal Management Act (Sec. 23)
2. State Plan for Development of Outdoor Recreation and Other Natural Resources	C.G.S. Sec. 22a-21	The commissioner of environmental protection is authorized to prepare, maintain and keep up-to-date a comprehensive plan for the development of outdoor recreation resources and other natural resources of the state. The plan will coordinate the activities and represent the interests of the component agencies of DEP and may coordinate with and/or represent the interests of other state agencies and units of government.	DEP-Planning and Coordination Unit	All state plans must be consistent with coastal goals and policies within 18 months of the effective date of proposed amendments to Coastal Management Act (Sec. 23)

TABLE 2 C -STATE PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
3. Conservation and Development Policies Plan	C.G.S. Sec. 16a-25 to 16a-33	The Plan is a statement of growth, land use, resource management and public investment policies for the state. It provides a policy framework for the planning and investment decisions of state government which influence the future growth and development of the state and the conservation of its natural resources. The identified policies, priorities and guidelines will be applied so that state actions are directed toward achievement of long-range goals. A monitoring, review and advisory reporting mechanism will be carried out by OPM with respect to specified state actions. State agency plans and project proposals involving land acquisition and improvements which influence the location, timing, form and intensity of development and conservation will be reviewed for conformance, conflict and trade-off with the adopted policies.	Office of Policy and Management-Comprehensive Planning Division	All state plans must be consistent with coastal goals and policies within 18 months of the effective date of proposed amendments to Coastal Management Act (Sec.23)
4. Economic Plan	Public Law 93-423 (Public Works and Economic Development Act) Sec. 302 C.G.S. Sec. 8-206c	The Federal program requires that overall state economic development planning be closely coordinated with a comprehensive planning process so that consideration shall be given to; the provision of public works to stimulate and channel development, economic opportunities and choices for individuals, support of sound land use, enhancement and protection of the environment including the conservation and preservation of open spaces and environmental quality, provision of public services and balancing of physical and human resources through management and control of physical development. An Economic Plan is presently being prepared for the state, covering such topics as manpower training, taxation, and industrial growth and decline.	Department of Economic Development	All state plans must be consistent with coastal goals and policies within 18 months of the effective date of proposed amendments to Coastal Management Act (Sec. 23)

TABLE 2 C-STATE PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
5. Water Pollution Control Plans a. Areawide Wastewater Management Plan. b. Water Quality Management Plans	Federal Clean Water Act P.L. 92-500 as amended Sect. 208 and 303(e) C.G.S. 25-54c	a. Areawide Wastewater Management Plan (208 Plan). The entire state of Connecticut has been designated as the "208 area." This plan essentially addresses non-point source water pollution. Planning elements include: groundwater protection, erosion and sedimentation control, industrial site selection, land use evaluation, management, public participation and special studies. The plan must include: an identification of projected necessary treatment works; the establishment of construction priorities; the establishment of regulatory programs. b. A "Continuing Planning Process" for water pollution control is required by Sec. 303(e) to include State Water Quality Management Plans. These plans coordinate and direct water quality decisions on a river basin scale by identifying water quality problems and proposing measures to correct those problems.	1. 208 Planning Agency (DEP, OPM, Health, EDA, Agriculture, Transportation, and representatives of 15 RPAs, and 15 representatives of the Chief Elected Officials.) DEP is the designated lead agency.	All state plans must be consistent with coastal goals and policies within 18 months of the effective date of proposed amendments to Coastal Management Act. (Sec. 23)
			DEP-Water Compliance Unit	

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
1. Zoning	C.G.S. Sec. 8-2	All activities, structures, uses, and buildings within the limits of a municipality which are not subject to other specific municipal land use regulations (eg. Planned Unit Development regulations) are subject to municipal zoning regulations. The zoning commission is authorized to regulate the height, number of stories and size of buildings and other structures; the percentage of the area of the lot that may be occupied; the size of yards, courts, and other open spaces; the density of population; the location and uses of buildings, structures and land for trade, industry, residence or other purposes; and the height, size, and location of advertising signs and billboards. No statutory review procedure is required for conforming uses. However, the municipal zoning enforcement officer must certify that a proposed use meets zoning requirements prior to issuing a building permit (C.G.S. Sec. 8-3 (f)) and municipalities may at their option require developers to submit a site plan to the zoning commission to insure that projects conform to municipal zoning regulations. (C.G.S. Sec. 8-3(g))	Zoning Commission or Combined Planning-Zoning Commission.	A. Municipal Site Plan Review All activities, uses or structures proposed for the area within the coastal boundary will be subject to coastal site plan review requirements (Proposed amendments to the Coastal Management Act. Sec. 11(b)). Site plans for activities uses or structures located fully or partially within the coastal boundary shall include the plans, descriptions, and assessments outlined in Sec. 11(c) of the proposed amendments to the Coastal Management Act. The zoning commission or combined planning-zoning commission shall, in addition to the discretion granted in Sec. 8-3 (g) of the C.G.S., approve modify, condition or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act to ensure that the potential adverse impacts on both coastal resources and future water dependent development activities are acceptable.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
				B. Municipal Coastal Program If a municipality opts to prepare a Municipal Coastal Program, the municipal zoning regulations, insofar as they affect the area within the coastal boundary, shall be revised to insure that they conform to and effectuate the goals and policies and land and water use strategies of the Municipal Coastal Plans revised under Sec. 7-10 of the proposed amendments to the Coastal Management Act. Future amendments to the zoning ordinance, insofar as they affect the area within the coastal boundary, will also have to conform to Municipal Coastal Plans.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
a. Special Exception	C.G.S. Sec. 8-2	Within zoning districts, certain classes or kinds of buildings, structures or uses of land are permitted only if a special permit has been obtained from the zoning commission, planning commission, combined planning-zoning commission or zoning board of appeals. Types of buildings, structures or uses requiring a special permit are enumerated in the zoning ordinance. Prior to granting a special permit, the appropriate commission must hold a public hearing (C.G.S. Sec. 8-3c).	Zoning Commission or Planning Commission or combined Planning-Zoning Board of Appeals.	A. Municipal Site Plan Review Applications for special exceptions for activities or projects located fully or partially within the coastal boundary will be subject to coastal site plan review requirements (proposed amendments to the Coastal Management Act, Sec. 11(b)). Site Plans shall include the plans, descriptions and assessments outlined in Sec. 11(c) of the proposed amendments to the Coastal Management Act appropriate commission shall, in addition to the discretion granted in Sec. 8-3(g) of the C.G.S., approve, modify, condition or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act to insure that the potential adverse impacts on both coastal resources and future water dependent development activities are acceptable. B. Municipal Coastal Program If a municipality opts to prepare a Municipal Coastal Program, the lists of uses, structures, buildings, etc. requiring a special permit in districts within the Coastal area shall be revised to insure that they conform to and effectuate the goals and policies

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
1. a. continued				and land and water use strategies of the Municipal Coastal Plans revised under Sec. 7-10 of the proposed amendments to the Coastal Management Act.
b. Variance	C.G.S. Sec. 8-6	Zoning requirements may be waived for individual parcels of land when, owing to conditions peculiar to the land, literal enforcement of zoning regulations would cause exceptional difficulties or hardship for the owner/developer. Requests for variances are directed to the zoning board of appeals who prior to reaching a decision must hold a public hearing (C.G.S. Sec. 8-7).	Zoning Board of Appeals	A. Municipal Site Plan Review Applications for variances for parcels of land located fully or partially within the coastal boundary will be subject to coastal site plan review requirements (Proposed amendments to the Coastal Management Act, Sec. 11(b)). Site plans shall include the plans, descriptions and assessments outlined in Sec. 11(c) of the proposed amendments to the Coastal Management Act. The zoning board of appeals shall, in addition to the discretion granted in Sec. 8-6 of the C.G.S., approve, modify or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act to insure that the potential adverse impacts on both coastal resources and future water dependent development activities are acceptable.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
2. Planned Unit Development Ordinance	C.G.S. Sec. 8-13c and Sec. 8-13f	A Planned Unit Development Ordinance regulates the use of large parcels of land controlled by one owner and stated for development as a single entity. The ordinance is incorporated into the municipal zoning regulations and establishes standards for: (1) the use of land and use, bulk, location of buildings and structures, (2) the quantity and location of open space, and (3) the intensity of use or density of residential units. A developer seeking to develop land as a PUD must submit an application for tentative approval to the planning commission or combined planning-zoning commission. The application must contain a detailed site plan, and the commission must hold a public hearing on the proposed plan. (C.G.S. Sec 8-13g). Final approval must be secured prior to initiation of construction. While a site plan is required as part of the submission for final approval, if the degree of divergence is minor between the tentative site plan and the final site plan, the commission need not hold a public hearing. (C.G.S. 8-13j(a) and (b))	Planning Commission or combined Planning-Zoning Commission	A. <u>Municipal Site Plan Review</u> Applications for Planned Unit Developments located fully or partially within the coastal boundary will be subject to coastal site plan review requirements. (proposed amendments to the Coastal Management Act, Sec. 11(b)). Site plans shall include the plans, descriptions, and assessments outlined in Sec. 11(c) of the proposed amendments to the Coastal Management Act. The appropriate commission shall in addition to the discretion granted in Sec. 8-13h and Sec. 8-13j(c) approve, modify, condition or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act to ensure that the potential impacts on both coastal resources and future water dependent development activities are acceptable. B. <u>Municipal Coastal Program</u> No change.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
3. Subdivision Ordinances	C.G.S. Sec. 8-25	No subdivision of land shall be made until a plan for such subdivision has been approved by the planning commission. Before exercising this power, the planning commission shall adopt regulations covering the subdivision of land. Such regulations shall cover the suitability of land for building purposes; the provision of water, drainage, sewerage, open space; and flood control measures. They shall provide that proposed streets are in harmony with existing or proposed principal thoroughfares and may include that provision be made for sedimentation control and control of erosion caused by wind or water. They may also prescribe the extent to which streets shall be graded and improved and public utilities and services provided, and in lieu of completion of such work, the commission may accept a bond securing the construction and installation of such improvements and utilities within a specified period. All plans are submitted to the planning commission with an application and fee. A public hearing may be held and a decision to approve, modify and approve or disapprove made within 65 days. (C.G.S. Sec. 8-26)		B. Municipal Coastal Program If a municipality opts to prepare a Municipal Coastal Program, PUD regulations, insofar as they affect the area within the coastal boundary, shall be revised to insure that they conform to and effectuate the goals and policies and land and water use strategies of the Municipal Coastal Plans revised under Sec. 7-10 of the proposed amendments to the Coastal Management Act.
			Planning Commission	A. Municipal Site Plan Review In addition to the requirements specified by the municipal subdivision regulations, site plans for subdivisions located fully or partially within the coastal boundary shall include the plans, descriptions, and assessments contained in Sec. 11(c) of the proposed amendments to the Coastal Management Act. The planning commission shall, in addition to the discretion granted in Sec. 8-25 of the C.G.S., approve, modify, condition or deny the subdivision proposed in a coastal site plan on the basis of criteria listed in Sec. 12 of the proposed

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
				amendments to the Coastal Management Act to ensure that the potential adverse impacts on both coastal resources and future water dependent development activities are acceptable. B. <u>Municipal Coastal Programs</u> If a municipality opts to prepare a municipal coastal program, the municipal subdivision regulations, insofar as they affect the area within the coastal boundary, shall be revised to insure that they conform to and effectuate the goals and policies and land and water use strategies of the Municipal Coastal Plans revised under Sec. 7-10 of the proposed amendments to the Coastal Management Act.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
4. Historic District Ordinance	C.G.S. Sec. 7-147b	Any municipality may, by vote of its legislative body and in conformance with standards and criteria of the Conn. Historical Commission, establish a historic district(s) to promote the educational, cultural, economic and general welfare of the public through the protection and preservation of buildings, places, and districts of historic interest. The legislative body of the municipality appoints a historic district study committee which investigates and reports on the historic significance of the buildings, features, and surroundings to be included in the proposed district and designates the area. The committee holds a hearing, submits a final report (map of the proposed area, proposed ordinance etc.) to the legislative body and a vote of owners of real property within the area is taken. 3/4 of the voters must approve for the legislative body to establish the district. Once a historic district is established in a municipality, a historic district commission is created and has responsibility for establishing new districts and administering these provisions. A certificate of appropriateness as to exterior architectural features must be obtained before a structure is erected, altered, restored, moved or demolished, or before an area is used for parking.	Historic District Commission	A. <u>Municipal Site Plan Review</u> No Change. B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the historic district ordinance, insofar as it affects the area within the coastal boundary, shall be revised to insure that it conforms to and effectuates the goals and policies of the proposed amendments to the Coastal Management Act.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
5. Inland Wetlands Regulations	C.S.G. Sec. 22a-42(e) and 22a-42a	Any municipality may authorize a board or commission to promulgate regulations and establish boundaries for the protection of wetlands and water courses. Municipal or district ordinances or regulations must be in conformity with and effectuate the regulations, purposes and standards of "The Inland Wetlands and Water Courses Act" (C.G.S. Sec. 22a-36 to 22a-45). A public hearing must be held before any regulation or boundary established by an inland wetlands agency becomes effective or before any change is made to them. No regulated activity shall be conducted upon any inland wetland without a permit. Regulated activities are any operation within or use of a wetland or water course involving removal or deposition of material, or any obstruction, construction, alteration or pollution, of such wetlands or water courses, excluding the activities in Sec. 22a-40. A public hearing may be held and the commission may grant, deny or limit a permit for a regulated activity based on criteria in C.G.S. Sec. 22a-41. The commission may suspend or revoke a permit if after a hearing, it decides the permittee has not complied with the conditions or limitations set forth in the permit.	Inland wetland agency	A. <u>Municipal Site Plan Review</u> No change. B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the municipality shall insure that such regulations conform to and effectuate the goals and policies of the proposed amendments to the Coastal Management Act.
6. Sewerage Ordinance	7-153	Any municipality may by ordinance, prohibit or regulate the construction of dwellings, apartments, boarding houses, hotels, commercial buildings, youth camps and commercial camping facilities therein unless the sewerage facilities have been approved by the authorized officials of such municipality.	Authorized officials of the municipality	A. <u>Municipal Site Plan Review</u> No change B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the municipality shall insure that such ordinances conform to and effectuate the goals and policies of the proposed

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
6. Sewrage Ordinance continued				<u>Municipal Coastal Program</u> continued amendments to the Coastal Management Act.
7. Regulations for the supervision, manage- ment, control, op- eration or use of a sewerage system	C.G.S. Sec. 7-427	Any municipality by its Water Pollution Control Auth- ority may: acquire, construct and operate a sewerage system; take and hold any real property by purchase, condemnation, etc. that is necessary for its use; establish and revise regulations for the supervision, management, control, operation and use of a sewerage system; contract with any person or other municipality to provide or obtain sewerage system service including the provision or exchange of staff and equipment. The authority may establish rules for transaction of its business, shall keep a record of its proceedings and designate an officer to maintain its books.	Water Pollution Con- trol Authority	A. <u>Municipal Site Plan Review</u> no change B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the municipality shall insure that such regulations conform to and effectuate the goals and policies of the pro- posed amendments to the Coastal Management Act.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
8. Ordinances concerning the protection and improvement of the environment	C.G.S. Sec. 7-148	Any town, city or borough, may, by ordinance provide for the protection and improvement of the environment by a commission or board and make appropriations therefor.	The designated commission or board	A. <u>Municipal Site Plan Review</u> No change B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the municipality shall insure that such ordinances conform to and effectuate the goals and policies of the proposed amendments to the Coastal Management Act.
9. Ordinances or regulations governing filling of land and removal of soil, loan, sand or gravel	C.G.S. Sec. 7-148	Any town, city or borough, may, by ordinance regulate the filling of, or removal of soil, loan, sand or gravel from land not in public use in the whole or in specified districts of the town, city or borough and provide for the reestablishment of ground level and protection of the area by suitable cover. Regulations enacted by a local zoning commission pursuant to this section shall have the same effect and application as an ordinance enacted pursuant to this section.	Zoning Commission Planning Commission Zoning Commission	A. <u>Municipal Site Plan Review</u> No change B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the municipality shall insure that such ordinances conform to and effectuate the goals and policies of the proposed amendments to the Coastal Management Act.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
10. Waterway Encroachment line ordinances	C.G.S. Sec. 7-147	Allows any municipality to establish by ordinance lines along any part of any waterway beyond which, in the direction of the waterway, no permanent obstruction or encroachment shall be placed, unless permission is granted by the legislative body of the municipality.	Legislative body of the municipality	A. <u>Municipal Site Plan Review</u> No change B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the waterway encroachment line ordinance insofar as it affects the area within the coastal boundary, shall be revised to insure that it conforms to and effectuates the goals and policies of the proposed amendments to the Coastal Management Act.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
11. Municipal Improvements	C.G.S. Sec. 8-24	Municipalities must refer proposed municipal projects to the planning commission or combined planning commission for review and comment before proceeding with the project. Examples of projects which must be referred include: improvements to public rights of ways, public buildings, and public recreational facilities; actions related to the location of public utilities (e.g. sewer, water power); and development/redevelopment projects. The commissioner must either approve or disapprove the project. A project rejected by the commission can be adopted pursuant to a vote of approval by 2/3 of the legislative body.	Planning Commission or combined Planning Zoning Commission	A. <u>Municipal Site Plan Review</u> Municipal projects located fully or partially within the coastal boundary will be subject to coastal site plan review requirements (Proposed amendments to the Coastal Management Act, Sec. 11(b)). Site plans shall include the plans descriptions, and assessments outlined in Sec. 11(c) of the proposed amendments to the Coastal Management Act. The appropriate commission shall, in addition to the discretion granted in Sec. 8-24, approve, modify or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act to ensure that the potential impacts on both coastal resources and future water dependent development activities are acceptable.

TABLE 3-A MUNICIPAL ORDINANCES AND REGULATIONS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
11. continued				<u>B. Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, proposed municipal projects within the coastal boundary will be reviewed in terms of their coastal resource compatibility. Projects which conflict with the statewide goals and policies of the proposed amendments to the Coastal Management Act will be altered. Changes will be incorporated into the Town Plan of Development or other appropriate plans.

TABLE 3 B MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
1. Municipal Plan of Development	C.G.S. Sec. 8-23	The Municipal Plan of Development is a statement of goals, policies, and standards for the physical and economic development of the municipality. It includes recommendations for the most desirable use of land within the municipality for residential, recreational, commercial, and industrial purposes and the most desirable density of population for different areas. Prior to adopting a Municipal Plan of Development or a part thereof or an amendment to the Plan, the planning commission or combined planning-zoning commission must hold a public hearing.	Planning Commission or Planning-Zoning Commission	A. <u>Municipal Site Plan Review</u> If a municipality opts to prepare a Municipal Coastal Program, revisions to the Municipal Plan of Development to ensure consistency with statewide coastal goals and policies will add an element of predictability to the coastal site plan review decision making process. B. <u>Municipal Coastal Program</u> The planning commission or combined planning-zoning commission may at their discretion revise the Municipal Plan of Development, insofar as it affects the coastal boundary, to insure consistency with statewide goals and policies (Proposed amendments to the Coastal Management Act, Sec. 7-10). Revisions would be subject to public hearing requirements of C.G.S. Sec. 8-23.

TABLE 3 B MUNICIPAL PLANS SUBJECTS TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
2. Community Development Plan	C.G.S. Sec. 8-169c and 8-169d	The Community Development Plan is an outline of proposed municipal projects designed to benefit low and moderate income families and to aid in the prevention and elimination of urban blight. The plan's contents must include a summary of a three year community development program; a description of specific projects and activities including their location, estimated costs, and the availability of resources for implementing the aforementioned projects; a housing assistance plan; and a description of the environmental considerations taken into account in preparing the overall plan. The plan must be referred to the planning commission or the combined planning-zoning commission; the municipal housing authority; and other agencies with plans/programs affected by the Community Development Plan. Ultimate approval of the Community Development Plan rests with the municipal legislative body. Before acting on the plan, the legislative body must hold a public hearing.	Community Development Agency	A. Municipal Site Plan Review per the requirements of Sec. 8-24 of the C.G.S., community development projects (outlined in the Community Development Plan) must be referred to the planning commission or combined planning-zoning commission for review and comment. All community development projects within the coastal boundary will be subject to coastal site plan review requirements. (Proposed amendments to the Coastal Management Act, Sec. 11(b)). The planning commission or combined planning-zoning commission shall, in addition to the discretion granted in Sec. 8-24 of the C.G.S., approve, modify, or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act. The review of community development projects will insure that the potential adverse impacts on both coastal resources and future water dependent development activities are acceptable

TABLE 3.B. MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
3. Redevelopment Plan	C.G.S. Sec. 8-125 and 8-126	The Redevelopment Plan locates and contains recommendations for those deteriorated or deteriorating areas of a municipality in need of improvement by means of rehabilitation or demolition of structures and/or construction of new ones. The Redevelopment Agency may prepare or cause to be prepared a Redevelopment Plan or a redeveloper may submit a plan to the Redevelopment Agency. A Redevelopment Plan must be submitted to the planning commission or combined planning-zoning commission for review and comment prior to its adoption. The commission may at its discretion prepare a comprehensive plan to guide redevelopment. Before approving any Redevelopment Plan, the Redevelopment Agency must hold a public hearing.	Redevelopment Agency	A. <u>Municipal Site Plan Review</u> Per the requirements of Sec. 8-24 of the C.G.S., all redevelopment projects (outlined in the Redevelopment Plan) must be referred to the planning commission or combined planning-zoning commission for review and comment. Under CAM, redevelopment projects with-in the coastal boundary will be subject to coastal site plan review requirements. (Proposed amendments to the Coastal Management Act, Sec. 11(b)). The planning commission or
				B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the Community Development Plan, insofar as it affects the area within the coastal boundary, may be revised to insure that it conforms to and effectuates the goals and policies and land and water use strategies of the (revised) Municipal Plan of Development. (Proposed amendments to the Coastal Management Act, Sec. 7-10).

TABLE 3 B MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
3. continued				combined planning zoning commission shall, in addition to the discretion granted in Sec. 8-24 of the C.G.S., approve, modify or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act. The review of redevelopment projects will insure that the potential adverse impacts on both coastal resources and future water dependent development activities are acceptable. <u>B. Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, Redevelopment Plans, insofar as they affect the area within the coastal boundary, may be revised to insure that they conform to and effectuate the goals and policies and land and water use strategies of the (revised) Municipal Plan of Development (Proposed amendments to the Coastal Management Act. Sec. 7-10). Procedural requirements governing plan modification (C.G.S. Sec. 8-136) remain unchanged.

TABLE 3 B MUNICIPAL PLANS TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
4. Harbor Improvement Plan	C.G.S. Sec. 13b-56	The Harbor Improvement Plan is an outline of proposed harbor improvements for the harbor area of a coastal municipality. Harbor improvement projects include the development, improvement, construction and installation of berthing areas and channels to these areas; sea-walls, piers, and docks; navigation aids; bridges; and other harbor related facilities and structures. Plan contents are subject to a public hearing requirement and must be approved by the planning commission or combined planning-zoning commission and the Commissioners of DEP and DOT before adoption by the municipal legislative body. Amendments to the plan must be approved by the commissions and individuals listed above and have the consent (in writing) of each purchaser or lessee of land in the harbor improvement project affected by the proposed modification.	Harbor Improvement Agency	A. <u>Municipal Site Plan Review</u> Per the requirements of Sec. 8-24 of the C.G.S., harbor improvements projects (outlined in the Harbor Improvement Plan) must be referred to the planning commission or combined planning-zoning commission for review and comment. All harbor improvement projects will be subject to coastal site plan review requirements. (Proposed amendments to the Coastal Management Act Sec. 13b). The planning commission or combined planning-zoning commission shall, in addition to the discretion granted in Sec. 8-24 of the C.G.S., approve, modify or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act. The review of harbor improvement projects will insure that the potential adverse impacts on both coastal resources and future water dependent development activities are acceptable.

TABLE 3 B MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
4. continued				B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the Harbor Improvement Plan may be revised to insure that it conforms to and effectuates the goals and policies and land and water use strategies of the (revised) Municipal Plan of Development (Proposed amendments to the Coastal Management Act, Sec. 7-10). Procedural requirements for modifying Harbor Improvement Plans remain unchanged. Note: When reviewing and approving Harbor Improvement Plans and/or amendments, the Commissioner of DEP and DOT will be required to review each plan to insure consistency with statewide coastal goals and policies.

TABLE 3 B. MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
5. Port Development Plan	C.G.S. Sec. 7-329c	Any town may establish a port district and a port authority to manage that district. The port authority must prepare a comprehensive plan for the development of port facilities in such district. Port facilities include wharfs, docks, piers, air or bus terminals, railroad tracks or terminals, cold storage and refrigerating plants, warehouses, elevators, freight-handling machinery and such equipment as is used in the handling of freight, passengers and vehicles, and the establishment and operation of a port and any other works, properties, buildings, structures, or other facilities necessary or desirable in connection with the development and operation of port facilities.	Port Authority	A. <u>Municipal Site Plan Review</u> Per the requirements of C.G.S. Sec. 8-24, port development projects must be referred to the Planning Commission or combined Planning-Zoning Commission. Under CAM the commission must undertake a site plan review for each project referred. (Proposed amendments to the Coastal Management Act, Sec. 11-16) Per C.G.S. Sec. 7-329c(12), all port authority powers are subject to rules, regulations and other directives of federal, and state agencies. Therefore, consistency with coastal goals and policies will be required. B. <u>Municipal Coastal Program</u> If the municipality opts to prepare a Municipal Coastal Program, the port authority may revise its port development plan to be consistent with the revised Municipal plan of Development. (Proposed amendments to the Coastal Management Act, Sec. 7-10).

-TABLE 3 B MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
6. Capital Improvement Program	C.G.S. Sec. 8-160	A Capital Program prioritizes and schedules all necessary municipal capital improvements over a six year period. Capital improvements are major improvements to a municipality's physical plant of a non-recurring nature as differentiated from ordinary repairs or maintenance of a recurring nature.	Planning Commission or combined Planning-Zoning Commission	<u>A. Municipal Site Plan Review</u> All capital improvement projects located fully or partially within the coastal boundary will be subject to coastal site plan review requirements. (Proposed amendments to the Coastal Management Act. Sec. 11(b)). The planning commission or combined planning-zoning commission shall, in addition to the discretion granted in Sec. 24 of the C.G.S., approve, modify or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act. The review of capital improvement projects will insure that the potential adverse impacts on both coastal resources and future water dependent development activities are acceptable.

TABLE 3 B MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
				<u>B. Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the Capital Improvement Program, insofar as it affects the area within the coastal boundary, may be revised to insure that it conforms to and effectuates the goals and policies and land and water use strategies of the (revised) Municipal Plan of Development (Proposed amendments to the Coastal Management Act, Sec. 7-10).

TABLE 3 B. MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
7. Open Space Plan	C.G.S. Sec. 12-107e	In preparing a plan of development, the planning commission may designate areas which it recommends for preservation as open space. Private owners of open space land designated in the Municipal Plan of Development may apply for relief from municipal property taxes.	Planning Commission/ Municipal Tax Assessors	A. <u>Municipal Site Plan Review</u> No Change. B. <u>Municipal Coastal Program</u> If the municipality opts to prepare a Municipal Coastal Program, the municipality may revise its Open Space Plan to be consistent with its revised Municipal Plan of Development. (proposed Amendments to the Coastal Management Act, Sec. 7-10)

TABLE 3 B MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
8. Development Plan or Project	C.G.S. Sec. 8-189	Development projects are projects conducted by the municipality for the assembly, improvement, and disposition of land and/or buildings to be used principally for industrial or business purposes. A Development Plan outlines and describes the proposed projects. Development Plans are referred to the planning commission or combined planning zoning commission to insure consistency with the Municipal Plan of Development and to the appropriate Regional Planning agency to insure consistency with regional plans. The municipal legislative body and the Commissioner of Economic Development must both approve a Development Plan before it can be adopted. The development agency is required to hold at least one public hearing on the Plan.	Economic Development Commission or Re-development Agency	A. <u>Municipal Site Plan Review</u> Per the requirements of Sec. 8-24 of the C.G.S., development projects (outlined in Development Plans) must be referred to the planning commission or combined planning-zoning commission for review and comment. All development projects within the coastal boundary will be subject to coastal site plan review requirements. (Proposed amendments to the Coastal Management Act, Sec. 11(b)). The planning commission or combined planning-zoning commission shall, in addition to the discretion granted in Sec. 8-24 of the C.G.S. approve, modify or deny the project proposed in the site plan on the basis of criteria listed in Sec. 12 of the proposed amendments to the Coastal Management Act. The review will insure that the potential adverse impacts on both coastal resources and future water dependent development activities are acceptable.

TABLE 3 B MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
				<u>B. Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, Development Plans, insofar as they affect the area within the coastal boundary, may be revised to insure that they conform to and effectuate the goals and policies and land and water use strategies of the (revised) Municipal Plan of Development (Proposed amendments to the Coastal Management Act, Sec. 7-10).

TABLE 3 B MUNICIPAL PLANS SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Program Name	Statutory Authority	Description of Program Jurisdiction and Procedures	Administering Agency	Changes Under CAM
9. Water Pollution Control Plan	C.G.S. Sec. 7-246	A Water Pollution Control plan designates and delineates areas served by any municipal sewerage system; areas where municipal sewerage facilities are planned; and the schedule of design and construction anticipated or proposed; areas where sewers are to be avoided; areas served by any community sewerage system not owned by a municipality; and areas to be served by any proposed community sewerage system not owned by a municipality. The plan also describes the means by which municipal programs are being carried out to avoid community pollution problems.	Water Pollution Control Authority	A. <u>Municipal Site Plan Review</u> No change B. <u>Municipal Coastal Program</u> If a municipality opts to prepare a Municipal Coastal Program, the Water Pollution Control Plan, insofar as it affects the area within the coastal boundary, may be revised to insure that it conforms to and effectuates the goals and policies and land and water use strategies of the (revised) Municipal Plan of Development (Proposed amendments to the Coastal Management Act, Sec. 7-10).

USES SUBJECT TO CONTROL AND REGULATION
UNDER THE COASTAL MANAGEMENT ACT

All uses having an impact on coastal resources are regulated or controlled under Connecticut's Coastal Management Program. As noted in the introduction to this Section, this broad comprehensiveness in uses subject to the program's jurisdiction is a result of the state's decision to build on existing state and local authorities governing private and public development along the coast. All uses subject to the Coastal Management Act's requirements are already subject to state and local control or regulation. No new state or local approvals are required. No new regulatory or control agencies are created. However, the legal authorities of state and local regulatory and development agencies have been altered to require that agency decision-makers, in reviewing developments consider coastal impacts in light of the uniform coastal goals and policies.

Column 1 of Table 4 provides a detailed listing of uses having the potential for significant coastal impacts. Column 2 gives the statutory authority for the regulatory or development control to which the use is subject. Column 3 describes briefly the manner in which coastal impacts of the use will be considered in light of the coastal goals and policies. Column 4 refers back to the appropriate sections of Tables 2 and 3 which provide more complete information on how the use will be reviewed under existing regulatory and development programs for the purposes of coastal management.

Uses 1 through 18 in Table 4 are uses subject to state regulatory jurisdiction. As noted in Table 4 they may also be subject to municipal control. Uses 19 through 24 are primarily state development projects. Uses 25 through 29 are uses primarily subject to municipal regulation or control, but may also be subject to state regulation depending on their location and nature.

It should be noted that uses, structures and buildings proposed by private developers or municipal agencies are, at a minimum, subject to municipal coastal site plan review requirements. A municipality may (as authorized by the proposed amendments, section 16(b)) exempt the following minor activities from the coastal site plan review process:

- (1) minor additions to or modification of existing buildings or detached accessory buildings, such as garages and utility sheds;
- (2) construction of new or modification of existing structures incidental to the enjoyment and maintenance of residential property including but not limited to walks, terraces, driveways, swimming pools,

tennis courts, docks and detached accessory buildings;

- (3) construction of new or modification of existing on premise fences, walls, pedestrian walks and terraces, underground utility connections (essential electric, gas, telephone, water and sewer service lines), signs and such other minor structures as will not substantially alter the natural character of coastal resources or restrict access along the public beach;
- (4) construction of an individual conforming single-family residential structure in the following coastal resource areas: shorelands, urban shorefront, and rocky shorefront as defined in section 3 of the proposed amendments;
- (5) gardening, landscaping, grazing, farming, and harvesting of crops; and
- (6) activities conducted for the specific purpose of conserving or preserving soil, vegetation, water, fish, shellfish, wildlife and other coastal land and water resources.

TABLE 4 USES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Uses	Statutory Authorities	Controls Under CAM	Table References
1. All structures and fill in tidal or coastal waters	Coastal Structures Law CGS Sec. 25-7b to 25-7f. Proposed amendments to Coastal Management Act, Sec. 24	Permit controls under Coastal Structures Law will be consistent with coastal goals and policies.	Table 2 A-1a
2. All dredging and removal of sand and gravel from tidal or coastal waters.	Coastal Dredging Law CGS Sec. 25-10 to 25-18 Proposed amendments to Coastal Management Act, Sec. 24.	Permit controls under Coastal Structures Law will be consistent with coastal goals and policies.	Table 2 A-1b
3. All activities in tidal wetlands.	Tidal Wetlands Law CGS Sec. 22a-28 to 22a-35. Municipal Ordinances CGS Sec. 7-148. Proposed amendments to Coastal Management Act, Sec. 7 to 10; Sec. 11 to 16; Sec. 24.	Permit controls under Tidal Wetlands Law will be consistent with coastal goals and policies. Municipal coastal site plan review is required. Coastal goals and policies will be considered if ordinance is revised as part of Municipal Coastal Program.	Table 2 A-1c Table 3 A-9d
4. All construction activities in or alteration of inland wetlands and watercourses.	Inland Wetland and Watercourses Law CGS Sec. 22a-36 to 22a-45. RCSA Sec. 22a-39-1 to 39-13.2. Proposed Amendments to Coastal Management Act, Sec. 24 Municipal Regulations per CGS Sec. 22a-42(e) and 22a-42a. Proposed Amendments to Coastal Management Act, Sec. 11 to 16 and Sec. 7 to 10.	State regulations under Inland Wetland and Watercourses Law will be consistent with coastal goals and policies. Municipal coastal site plan review is required. Coastal goals and policies will be considered if regulations are revised as part of Municipal Coastal Program	Table 2 A-1d Table 3 A-5

TABLE 4 USES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Uses	Statutory Authorities	Controls Under CAM	Table References
5. Construction in and alteration of flood and erosion prone areas.	Flood Encroachment Lines Program CGS Sec. 25-41 to 25-4f. Proposed Amendments to Coastal Management Act, Sec. 24. Executive Order 18, Ella Grasso Governor. State Assistance for Flood Control and Beach Erosion CGS Sec. 25-69 to 25-83a. Proposed Amendments to Coastal Management Act, Sec. 23. Zoning CGS Sec. 8-2. Waterway Encroachment Line Ordinances. CGS. Sec. 7-147. Proposed amendments to Coastal Management Act, Sec. 11 to 16 and 7 to 10.	State regulations under Flood Encroachment Lines Program will be consistent with coastal goals and policies. State development programs for Flood Control and Beach Erosion will be consistent with coastal goals and policies.	Table 2 A-2 Table 2 B-1
6. All dams and reservoirs	Dams and Reservoirs Law CGS Sec. 25-110 to 25-119. Proposed amendments to Coastal Management Act, Sec. 24.	State regulations under Dams and Reservoirs Laws will be consistent with coastal goals and policies.	Table 2 A-1e
7. All uses significantly polluting the waters of the state.	Water Pollution Control Laws CGS. Sec. 25-26 to 25-27 Sec. 25-54a to 25-54g Sec. 25-54aa Proposed amendments to Coastal Management Act, Sec. 24 Water Quality Planning CGS Sec. 25-54c Federal Clean Water Act (PL 92-500) Sec. 208 and 303 (e) Proposed Amendments to Coastal Management Act, Sec. 23	State permits controls and regulations will be consistent with coastal goals and policies. State plans will be consistent with coastal goals and policies	Table 2 A-3a Table 2 C-5

TABLE 4 USES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Uses	Statutory Authorities	Controls Under CAM	Table References
8. All sewer lines, sewage treatment plants and municipal sewer avoidance programs.	Water Pollution Control Laws CGS Sec. 25-26; 25-54b; 25-54g; 25-54i; 25-54o to 25-54z. State Grants for Pollution Abatement Facilities CGS Sec. 25-54r to 25-54z. Proposed Amendments to Coastal Management Act, Sec. 24 Federal Clean Water Act (PL 92-500) Sec. 208 and 303 (e). Proposed amendments to Coastal Management Act, Sec. 23 Municipal Sewer Avoidance Programs CGS Sec. 7-153. Proposed amendments to Coastal Management Act, Sec. 11 to 16 and Sec. 7 to 10.	State permit controls and regulations will be consistent with coastal goals and policies State development programs and state plans will be consistent with coastal goals and policies. Municipal Coastal Site Plan Review will be required. Coastal goals and policies will be considered if program is revised as part of Municipal Coastal Program.	Table 2 A-3b Table 2 C-5 Table 3 A-6 (Table 2 A-3b)
9. All uses significantly polluting the air resources of the state.	Air Pollution Control Laws CGS Sec. 19-505 to 19-522. RCSA Sec. 19-508-1 to 19-508-100. Proposed amendments to Coastal Management Act, Sec. 24.	State permit controls and regulations will be consistent with coastal goals and policies	Table 2 A-4
10. All navigation channels.	Coastal Dredging Laws CGS Sec. 25-10 to 25-18. Channels CGS Sec. 25-3d. Proposed amendments to Coastal Management Act, Sec. 24.	State permit controls and regulations will be consistent with coastal goals and policies.	Table 2 A-5
11. All sea lanes, port navigation and anchorage patterns.	Boating Laws CGS Sec. 15-121 to 15-157. Harbor Navigation Laws CGS Sec. 15-1 to 15-31. Proposed amendments to Coastal Management Act, Sec. 24.	State permit controls and regulations will be consistent with coastal goals and policies.	Table 2 A-5

TABLE 4 USES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Uses	Statutory Authorities	Controls Under CAM	Table References
12. All boating activities	Boating Laws CGS. Sec. 15-121 to 15-157. Proposed amendments to Coastal Management Act, Sec. 24	State permit controls and regulations will be consistent with coastal goals and policies.	Table 2 A-6
13. All commercial and recreational fisheries.	State Fisheries and Game Laws. CGS Sec. 26-1 to 26-186. Proposed amendments to Coastal Management Act, Sec. 24.	State permit controls and regulations will be consistent with coastal goals and policies	Table 2 A-7b
14. All shellfishing	State Shellfisheries Laws CGS. Sec. 26-187 to 26-237. Shellfish Sanitation CGS. Sec. 19-55. Proposed amendments to Coastal Management Act, Sec. 24.	State permit controls and regulations will be consistent with coastal goals and policies.	Table 2 A-7a
15. All solid waste disposal sites.	Solid Waste Management Laws CGS. Sec. 19-524a to 19-524b. RCSEA Sec. 19-524-1 to 19-524-14. Proposed amendments to Coastal Management Act, Sec. 24.	State permit controls and regulations will be consistent with coastal goals and policies.	Table 2 A-8
16. All oil and chemical terminal and handling facilities.	Oil and Chemical Handling Law CGS. Sec. 25-54bb to 25-54kk. RCSEA Sec. 25-54cc-1 to 25-54-cc-7. Proposed amendments to Coastal Management Act, Sec. 24.	State permit controls and regulations will be consistent with coastal goals and policies	Table 2 A-9
17. All power facilities	Public Utilities Environmental Standards Act CGS Sec. 16-50g to 16-50y. RCSEA Sec. 16-50g-1-43; Sec. 16-50i-1-43; Sec. 16-50r-1-2; Sec. 16-50z-1-4. Proposed amendments to Coastal Management Act, Sec. 24.	State permit controls and regulations will be consistent with coastal goals and policies.	Table 2 A-10

TABLE 4 USES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Uses	Statutory Authorities	Controls Under CAM	Table References
18. Harbor and port developments.	Coastal Structures Law CGS. Sec. 25-7b to 25-7f. Coastal Dredging Law CGS. Sec. 25-10 to 25-18. Proposed amendments to Coastal Management Act, Sec. 24. State Port Development CGS. Sec. 13b-53 State Grants-in Aid for Harbor Improvement CGS Sec. 13b-57. Proposed amendments to Coastal Management Act, Sec. 23. Municipal Harbor Improvement Agencies. CGS. Sec. 13b-56 to 13b-57 Municipal Port Development CGS. Sec. 7-329c. Proposed amendments to Coastal Management Act, Sec. 11 to 16 and Sec. 7 to 10.	State permit controls and regulations will be consistent with coastal goals and policies. State development projects will be consistent with coastal goals and policies	Table 2 A-1a,b Table 2 B-2
19. State Park and recreation facilities.	State Park and Recreation Laws. CGS. Sec. 22a-21 to 22a-27 Sec. 23-6 to 23-18 Sec. 23-24 to 23-27 State Fisheries and Game Laws Sec. 26-16. Proposed amendments to Coastal Management Act, Sec. 23.	Municipal Coastal Site Plan Review is required Coastal goals and policies will be considered if plans and ordinances are revised as part of Municipal Coastal Program. State development projects and state plans will be consistent with coastal goals and policies.	Table 3 B-4 Table 3 B-5 Table 2 B-3 Table 2 C-2
20. State conservation reserves and research facilities.	State Open Space, Conservation and Recreation Laws CGS. Sec. 22a-6; Sec. 22a-25; Sec. 23-5a to 23-5f. State Fisheries and Game Laws CGS. Sec. 26-3; 26-99; 26-102. Proposed amendments to Coastal Management Act, Sec. 23.	State development projects will be consistent with coastal goals and policies	Table 2 B-4

TABLE 4 USES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Uses	Statutory Authorities	Controls Under CAM	Table References
21. All state and interstate highways.	State Transportation Law CGS. Chapters 236 to 242. Master Transportation Plan CGS. Sec. 13b-15. Proposed amendments to Coastal Management Act, Sec. 23.	State development projects and state plans will be consistent with coastal goals and policies.	Table 2B-5a Table 2 C-1
22. All airports	State Transportation Law CGS. Sec. 13b-46 to 13b-49. Master Transportation Plan CGS. Sec. 13b-15. Proposed amendments to Coastal Management Act, Sec. 23.	State development projects and state plans will be consistent with coastal goals and policies.	Table 2 B-5b Table 2 C-1
23. All railroads	State Transportation Law CGS. Sec. 13b-32 to 13b-38. Master Transportation Plan CGS. Sec. 13b-15. Proposed amendments to Coastal Management Act, Sec. 23.	State development projects and state plans will be consistent with coastal goals and policies.	Table 2 B-5c Table 2 C-1
24. All uses incidental to economic development.	Connecticut Development Authority CGS. Sec. 32-10 to 32-23m. Proposed amendments to Coastal Management Act, Sec. 23	State development projects will be consistent with coastal goals and policies.	Table 2 B-6
25. All buildings, structures and uses (except those minor projects exempted by the municipality).	Zoning Laws CGS. Sec. 8-2 Municipal Ordinances CGS. Sec. 7-148. Proposed amendments to Coastal Management Act, Sec. 11 to 16 and Sec. 7 to 10.	Municipal Coastal Site Plan Review is required. Coastal goals and policies will be considered if ordinances are revised as part of Municipal Coastal Program.	Table 3 A-1 Table 3 A-8 Table 3-A-9

TABLE 4 USES SUBJECT TO COASTAL MANAGEMENT REQUIREMENTS

Uses	Statutory Authorities	Controls Under CAM	Table References
26. Planned Unit Development	Planned Unit Development CGS. Sec. 8-13(c) and 8-13(f). Proposed amendments to Coastal Management Act, Sec. 11 to 16 and Sec. 7 to 10.	Municipal Coastal Site Plan Review is required. Coastal goals and policies will be considered if ordinances are revised as part of Municipal Coastal Program.	Table 3 A-2
27. Subdivisions	Subdivision CGS. Sec. 8-25. Proposed amendments to Coastal Management Act, Sec. 11 to 16 and Sec. 7 to 10.	Municipal Coastal Site Plan Review is required. Coastal goals and policies will be considered if ordinances are revised as part of Municipal Coastal Program.	Table 3 A-3
28. Variances	Variances CGS. Sec. 8-6(3) Proposed amendments to Coastal Management Act, Sec 11 to 16 and Sec. 7 to 10.	Municipal Coastal Site Plan Review is required. Coastal goals and policies will be considered if ordinances are revised as part of Municipal Coastal Programs.	Table 3 A-1b
29. Municipal development projects.	Municipal Development Projects CGS. Sec. 8-189. Proposed amendments to Coastal Management Act, Sec. 11 to 16 and Sec. 7 to 10.	Municipal Coastal Site Plan Review is required. Coastal goals and policies will be considered if ordinances are revised as part of Municipal Coastal Program.	Table 3 B-1

LEGAL AUTHORITIES FOR AREAS OF PARTICULAR CONCERN

Areas of Particular Concern

Several generic resource categories have been selected by the state for designation as areas of particular concern as required by Section 305(b)(3) of the federal CZM Act. This designation is based on the development pressure on the resources, their economic importance or other serious problems related to their use. Designation as an area of particular concern means that the state will give special attention to the area in terms of both research and the administrative resources devoted to their regulation, protection or development.

Table 5 lists the resources designated as areas of particular concern, the statutory authority for their control, and the goals and policies and use priorities associated with them. A full description of the reasons for selecting each area and the state management approach for each of them is given in Section VII of this document.

TABLE 5-LEGAL AUTHORITIES FOR AREAS OF PARTICULAR CONCERN

Resource	Statutory Authorities	Goals and Policies	Use Priorities
1. Tidal Wetlands	Tidal Wetlands Act CGS. Sec. 22a-28 to 22a-35 (see Table 2 A-1c) Inland Wetlands and Water-courses Act CGS. Sec. 22a-36 to 22a-45 (to be used as interim authority for tidal wetlands not yet designated as state regulated) Proposed Amendments to Coastal Management Act, Sec. 24.	General Policy: "To preserve tidal wetlands and to prevent the despoilation and destruction thereof." (CGS. Section 22a-28). Specific Policy: "To preserve tidal wetlands and to prevent the despoilation and destruction thereof" (CGS Section 22a-28) in order to maintain their vital functions as a source of high biological productivity, a habitat and nesting, feeding and refuge area for shorebirds, a habitat for shellfish, a nursery ground for larval and juvenile forms of marine organisms, a buffer for storm and wave energy; to encourage the rehabilitation and restoration of degraded tidal wetlands; and where feasible and environmentally acceptable, to encourage the creation of wetlands for the purposes of shellfish and finfish management, habitat creation and dredge spoil disposal. (Section IV B5)	a) High Priority 1. preservation 2. restoration 3. research 4. limited recreation b) Low Priority 1. structures 2. filling 3. dredging 4. solid waste disposal 5. chemical dumping
2. Shellfish Concentration Areas.	State Shellfisheries Laws CGS. Sec. 26-187 to 26-237 Local Shellfisheries Laws CGS. Sec. 26-238 to 26-294. Shellfish Sanitation CGS. Sec. 19-55 (see Table 2A-7a) Additional Relevant Authorities: Tidal Wetlands Act CGS. Sec. 22a-28 to 22a-35. Coastal Structures Law CGS. Sec. 25-7b to 25-7f. Coastal Dredging Law CGS. Sec. 25-10 to 25-18 Water Pollution Control Laws CGS. Sec. 25-54a to 25-54g; 25-26; 25-27; 25-54aa Proposed Amendments to Coastal Management Act, Sec. 24.	Specific Policy: To employ improved aquaculture techniques in order to revitalize and increase the number and extent of productive shellfish beds and to restore and maintain health and productive bottom conditions. (See Section IV A-12c)	a) High Priority 1. aquaculture 2. restoration 3. recreation b) Low Priority 1. dredging 2. dredge spoil disposal 3. activities which increase pollution of coastal waters.

TABLE 5-LEGAL AUTHORITIES FOR AREAS OF PARTICULAR CONCERN

Resource	Statutory Authorities	Goals and Policies	Use Priorities
3. Federal Navigation Channels	Federal Coastal Zone Management Act of 1972 (P.L. 92-583) as amended, Sec. 307(c). Federal Clean Water Act (P.L. 92-500) Sec. 404(f)(2) Water Pollution Control Laws CGS. Sec. 25-54(a) to 25-54g; 25-26; 25-27; 25-54aa. (See Table 2A-3b)	<u>General Policy:</u> To encourage the maintenance and enhancement of existing federally maintained navigation channels, to reduce the need for future dredging by long range planning, and to require the consideration of natural sedimentation patterns prior to allowing new dredging. <u>Specific Policy:</u> (1) To encourage, through the state permitting program for dredging activities, the maintenance and enhancement (i.e. minor alterations such as deepening or widening) of existing federally maintained navigation channels, basins and anchorages and to discourage the dredging of new or expanded federally maintained navigation channels, basins and anchorages, (2) to only provide state funding assistance for dredging projects which serve the general boating public. <u>Specific Policy:</u> To reduce the need for future dredging by requiring that new or expanded navigation channels, basins and anchorages take advantage of existing water depths, circulation and siltation patterns and the best available technologies for reducing controllable sedimentation. <u>Specific Policy:</u> To initiate in cooperation with the federal government a long range planning program for the maintenance and enhancement of federally maintained navigation facilities in order to effectively and efficiently plan and provide for environmentally sound dredging and disposal of dredged materials. (See Section IV A-5)	a) High Priority 1. Shipping 2. Recreational boating b) Low Priority 1. Structures 2. Other recreation
4. Dredged Spoil Disposal Sites	Federal Coastal Zone Management Act of 1972.(P.L. 92-538) as amended, Sec. 307(c) Federal Clean Water Act (P.L. 92-500) Sec. 404 Water Pollution Control Laws CGS. Sec. 25-54a to 25-54g; 25-26; 25-27; 25-54aa. (See Table 2 A-3b)	<u>Specific Policy:</u> To initiate in cooperation with the federal government a long range planning program for the maintenance and enhancement of federally maintained navigation facilities in order to effectively and efficiently plan and provide for environmentally sound dredging and disposal of dredged materials. (See Section IV A-5) <u>Specific Policy:</u> To manage the nearshore and offshore waters of the state through the maintenance, enhancement, or restoration of natural circulatory patterns, biochemical processes, basin configuration, and freshwater inputs; to insure the continued biological productivity and viability of Long Island Sound as a resource capable of supporting healthy and self-perpetuating marine, anadromous, and shellfisheries, a broad, Sound-wide spectrum of safe and healthy recreational activities, and an efficient system of marine commercial transportation and navigation. (See Section IV B-11)	a) High Priority 1. Dredged spoil disposal b) Low Priority 1. Uses that would alter disposal sites by disturbing sediments or preventing access.

LEGAL AUTHORITIES FOR
AREAS FOR PRESERVATION OR RESTORATION

Section 306(c)(9) of the federal CZM Act requires that the state establish a procedure for the designation of areas for the purpose of preserving or restoring them for their conservation, recreational, ecological or esthetic values. A full discussion of Connecticut's approach to meeting the requirement is provided in Section VII. It should be noted in this discussion of legal authorities that the Commissioner of Environmental Protection has the authority to acquire property by purchase, lease, gift, devise, exchange or right of eminent domain for any purpose or activity relating to or compatible with the functions of his department (CGS Section 22a-25). This authority provides sufficient legal authority for the state's proposed approach to preserving or restoring selected coastal land.

FUNCTIONAL ROLES AND ORGANIZATIONAL STRUCTURE OF THE COASTAL MANAGEMENT PROGRAM

Introduction

Under Connecticut's approach to coastal management, no new regulatory or control programs or agencies are created. However, the authorities of existing agencies are altered slightly to incorporate coastal management responsibilities. In addition, a coastal management unit is established within the Department of Environmental Protection to coordinate, supervise and assist the existing state and local agencies in carrying out their coastal management related duties.

The purpose of this discussion is to systematically list the duties of state and local agencies and to describe the inter-relationships among them. The primary emphasis will be on the supervisory responsibilities of the newly created CAM Unit of DEP and the new duties assigned to municipal planning and zoning agencies.

The Coastal Area Management Unit

Section 20 of the proposed amendments to the Coastal Management Act establishes a Coastal Area Management (CAM) unit within the Office of the Commissioner of Environmental Protection. The overall function of the CAM Unit is to coordinate, supervise and assist the activities of existing state and local agencies in carrying out coastal management requirements. The CAM Unit has been assigned to the Department of Environmental Protection because that agency currently is the lead agency in planning the state's coastal management program and administers the majority of coastal-related regulatory programs at the state level. Within DEP, the CAM Unit was placed in the Office of the Commissioner to facilitate communication and coordination with other units in the Commissioner's office and with the two major operating divisions of the Department, the Division of Environmental Quality (which is responsible for permitting activities) and the Division of Conservation and Preservation (which is responsible for parks, recreation, fish and wildlife management, conservation measures and property management). The major functional responsibilities of the CAM Unit are discussed below.

Administration of State and Federal Coastal Management Funds -- In accordance with Section 22a-96 of the General Statutes and section 6 of the proposed amendments the CAM Unit would have the following responsibilities with respect to administration of state and federal

funds for coastal management:

- (a) In cooperation with DEP's business administration unit the CAM Unit would be responsible for the annual preparation of the state's application for federal financial assistance under Section 306 of the federal CZM Act.
- (b) In cooperation with DEP's business administration unit the CAM Unit would be responsible for administering annual grants to municipalities for the purpose of carrying out their duties for coastal site plan reviews and for preparation and implementation of municipal coastal programs.
- (c) In cooperation with DEP's business administration unit the CAM Unit would be responsible for allocating state and federal funds to other units of DEP, other state agencies, regional planning agencies and outside consultants and contractors as applicable for the purposes of relevant regulation, planning, technical assistance, and research.
- (d) In cooperation with DEP's business administration, planning and coordination, and land acquisition units the CAM Unit would be responsible for preparing applications and administering federal grants for purchasing estuarine sanctuaries and land for access to public beaches and other public coastal areas under Section 315 of the federal CZM Act.
- (e) In cooperation with DEP's business administration unit the CAM Unit would be responsible for preparing applications for and administering special federal grants from the federal Office of Coastal Zone Management for activities such as urban port studies and fisheries management studies.
- (f) In cooperation with the state's Office of Policy and Management the CAM Unit would be responsible for preparing applications and administering federal grants for studying and ameliorating the effects of energy-related impacts under Section 308 of the federal CZM Act.

Coordination of DEP Responsibilities for Coastal Management --
The CAM Unit would be responsible for coordinating the following coastal management duties of DEP.

- (a) The CAM Unit would be responsible for preparing the coastal boundary maps required by Section 22a-94 of the General Statutes and section 4 of the proposed amendments.

- (b) The CAM Unit would be responsible for providing technical assistance to municipalities as required by section 5 of the proposed amendments, including preparation of a model municipal coastal program (see Appendix E) and preparation of resource factor maps (see Appendix F).
- (c) The CAM Unit would be responsible for preparing regulations containing specific coastal goals and policies for guiding municipal and state decisions in accordance with section 18 of the proposed amendments (see Section **IV** of this document).
- (d) The CAM Unit would be responsible for preparing advisory guidelines to assist state and local agencies in evaluating the impacts of coastal development in accordance with section 19 of the proposed amendments (see Appendix D).
- (e) The CAM Unit would be responsible for monitoring the coastal management activities of state and local agencies and for preparing an annual report in accordance with section 20 of the proposed amendments.
- (f) In cooperation with the Water Resources, Water Compliance, Air, Marine, Fisheries, Solid Waste, and Hazardous Materials Management units of DEP the CAM Unit would be responsible for insuring that coastal goals and policies are followed in administering coastal related permitting activities as required by section 24 of the proposed amendments.
- (g) The CAM Unit would be responsible for monitoring municipal regulatory decisions within the coastal boundary and advising the Commissioner of DEP on when to intervene as a party or appellant to such decisions as authorized by section 22 of the proposed amendments.
- (h) The CAM Unit would be responsible for reviewing revisions to municipal plans of development and revisions to municipal zoning regulations undertaken in preparation of municipal coastal programs in accordance with sections 8(d) and 9(b) of the proposed amendments.
- (i) In cooperation with the Water Resources Unit of DEP and the Aquaculture Division of the Department of Agriculture, the CAM Unit would be responsible for developing policies for the state's areas of particular concern (see Section VII of this document).
- (j) In cooperation with the Division of Conservation and Preservation and the Land Acquisition Unit of DEP the CAM Unit would be responsible for the state's activities

with respect to preservation and restoration of coastal areas (see Section VII of this document).

- (k) The CAM Unit would be responsible for monitoring the administration of the national interest policy (see Section VIII of this document).
- (l) The CAM Unit would be responsible for providing staff support to the Commissioner of DEP's Coastal Area Management Advisory Board (see Section IX of this document).

Coordination With Other State Agencies -- The CAM Unit would be responsible for the following activities concerning coordination of the duties of other state agencies for coastal management.

- (a) The CAM Unit would be responsible for consulting with other units of DEP and other state agencies revising major state plans to insure consistency with coastal goals and policies in accordance with section 23(a) of the proposed amendments (see also the discussions on erosion planning, shorefront planning and energy planning in Section VIII of this document).
- (b) In cooperation with the Planning and Coordination Unit of DEP the CAM Unit would be responsible for revising the regulations for state agency project environmental impact statements in accordance with section 23(b) of the proposed amendments.
- (c) In cooperation with the State Power Facilities Evaluation Council (PFEC -- of which the Commissioner of DEP is a member), the CAM Unit would be responsible for insuring that coastal goals and policies are considered in licensing electric generating facilities and other power facilities regulated by the PFEC in accordance with Section 16-50p of the General Statutes.

Federal Consistency Reviews -- In accordance with Section 22a-96 of the General Statutes the CAM Unit would be responsible for reviewing the consistency of federal agency activities, actions, permits, grants and outer continental shelf energy related activities with the state's coastal program (see also the discussion of federal consistency in this section).

Coordination and Simplification of State and Federal Coastal Permit Programs -- In cooperation with the Water Resources and Water Compliance Units of DEP the CAM Unit would be responsible for procedural coordination and simplification of state and federal coastal permit programs in accordance with Section 22a-96 of the General Statutes.

Interstate Coordination -- The CAM Unit would be responsible for coordinating the state's coastal management program with the coastal management programs of New York and Rhode Island and other interstate agencies as required by Section 306(c)(2)(B) of the federal CZM Act.

Public Participation -- The CAM Unit would be responsible for insuring continuing public participation in the state's coastal management program (see Section IX of this document).

Responsibilities of Other Units of the Department of Environmental Protection

Water Resources Unit -- The Water Resources Unit would be required to administer the following coastal-related programs in conformity with coastal goals and policies: Tidal wetlands, coastal structures, coastal dredging, inland wetlands, stream channel encroachment lines, dams and reservoirs, flood and erosion control, and U.S HUD Flood Insurance Program. The Water Resources Unit would also assist the CAM Unit in providing technical assistance to municipalities and other state agencies, developing a shoreline erosion and coastal flood hazard management planning process, developing regulations and performance standards for coastal-related regulatory programs, and developing a state dredge spoil disposal policy.

Water Compliance Unit -- The Water Compliance Unit would be required to administer the following coastal-related programs in conformity with coastal goals and policies: NPDES water pollution permits, sewer treatment facility grants, sewerage system approvals, sewer avoidance regulations, 401 water quality certification, and 208, 303(e) and 201 planning. The Water Compliance Unit would also assist the CAM Unit in developing a state dredge spoil disposal policy.

Hazardous Materials Management Unit -- The Hazardous Materials Management Unit would be required to administer its oil and chemical terminal regulatory program in conformity with coastal goals and policies.

Air Compliance Unit -- The Air Compliance Unit would be required to administer its air pollution regulatory activities in conformity with the coastal goals and policies and to consider the coastal goals and policies in revising the State Air Quality Implementation Plan, the Air Quality Maintenance Plan and Transportation Control Plan.

Solid Waste Management Unit -- The Solid Waste Unit would be required to administer its solid waste facility permit program in conformity with the coastal goals and policies.

Fisheries Unit -- The Fisheries Unit would be required to administer its regulation of commercial and recreational marine

fisheries in conformity with the coastal goals and policies.

Parks and Recreation Unit -- The Parks and Recreation Unit would be required to consider the coastal goals and policies in planning and developing coastal recreational facilities.

Marine Region Field Office -- The Marine Region Field Office would be required to consider the coastal goals and policies in regulating boating activities. The Marine Region Field Office would also assist the CAM Unit in conducting research studies.

Natural Resources Center -- The Natural Resources Center would assist the CAM Unit in providing technical information, preparing flooding and erosion plans, and preparing management plans for natural areas.

Land Acquisition Unit -- The Land Acquisition Unit would be required to consider the coastal goals and policies in purchasing coastal property.

Planning and Coordination Unit -- The Planning and Coordination Unit would receive the assistance of the CAM Unit in (a) revising regulations concerning state project environmental impact statements to include consideration of coastal goals and policies, (b) revising the coastal-related section of the State Comprehensive Outdoor Recreation Plan, and (c) conducting coastal-related A-95 reviews.

Business Administration Unit -- The Business Administration Unit would assist the CAM Unit in administering grants from the federal government and in providing grants to municipalities.

Information and Education Unit -- The Information and Education Unit would assist the CAM Unit in public participation activities.

Responsibilities of Other State Agencies

All state agencies have three major responsibilities under the Coastal Management Act: (a) they must revise major state plans to conform to the coastal goals and policies, (b) in planning and undertaking major development projects they must consider the advisory coastal development guidelines (see Appendix D) and insure that such projects are consistent with the coastal goals and policies, and (c) they must include an evaluation of coastal impacts in preparing state environmental impact statements. (It should also be noted that state development projects are also subject to regulation under state permit programs.) The discussion below focuses on state agencies subject to the plan revision requirements of the coastal management act or agencies with other special responsibilities for coastal management.

The Office of Policy and Management -- The Office of Policy and Management has four major responsibilities related to coastal management: (a) review of state project environmental impact statements to insure that they adequately consider the coastal goals and policies, (b) revision of the State Plan of Conservation and Development to insure consistency with the coastal goals and policies, (c) revision of state energy plans to insure consistency with the coastal goals and policies, and (d) administration of energy impact planning grants under Section 308 of the federal CZM Act after consultation with the CAM Unit of DEP.

Department of Transportation -- The Department of Transportation has two major responsibilities related to coastal management: (a) revision of the State Master Transportation Plan to insure consistency with the coastal goals and policies, and (b) coordination with DEP concerning the activities of Harbormasters and municipal harbor improvement agencies.

Division of Aquaculture -- The Aquaculture Division of the Department of Agriculture would cooperate with DEP in preparing a management program for state-owned shellfish beds.

Power Facilities Evaluation Council -- The Power Facilities Evaluation Council (of which the Commissioner of DEP is a member) would be required to consider the coastal goals and policies in licensing the construction and operation within the coastal boundary of electric generating plants and other power facilities under its jurisdiction.

University of Connecticut -- The services of the Marine Sciences Institute and Marine Advisory Service of the University of Connecticut would be utilized in coastal research studies.

The Department of Economic Development -- The Department of Economic Development would be required to revise its economic plan for the state to insure consistency with the coastal goals and policies.

Connecticut Resources Recovery Authority -- The Connecticut Resources Recovery Authority would be required to revise its plans for the development of a solid waste recovery system in the coastal area to insure consistency with the coastal goals and policies

Responsibilities of Coastal Municipalities

Municipalities have two major responsibilities for coastal management: administration of the mandatory coastal site plan reviews and preparation of voluntary municipal coastal programs. Each of these responsibilities will be discussed separately.

Municipal Coastal Site Plan Reviews -- Sections 11 through 16 of the proposed amendments to the Coastal Management Act require municipalities to conduct site plan reviews concerning the coastal impacts

of individual development projects currently subject to their regulatory jurisdiction. Because the site plan reviews are mandated by state statute no revision to municipal zoning regulations or other land use ordinances or regulations will be required.

Municipalities currently exercise regulatory jurisdiction over land and water uses under the following major programs and authorities:

- (a) Zoning under the authority of Sections 8-2 and 8-3 of the General Statutes -- all buildings, uses, and structures are regulated by the municipal zoning commission.
- (b) Subdivision regulations under the authority of Section 8-25 of the General Statutes -- all subdivisions of land are regulated by the municipal planning commission.
- (c) Planned Unit Development regulations under the authority of Section 8-13f of the General Statutes-- all planned unit developments of greater than 25 dwelling units are regulated by the municipal planning commission.
- (d) Variances under the authority of Section 8-7 of the General Statutes -- all variance from zoning regulations are regulated by the municipal zoning board of appeals.
- (e) Special Permits under the authority of Section 8-2 of the General Statutes -- municipalities may by regulation permit development otherwise excluded from a particular zone if it meets specified conditions as determined (at the option of the municipality) by the zoning commission, planning commission or zoning board of appeals.
- (f) Review of Municipal Improvements under the authority of Section 8-24 of the General Statutes -- all major municipal development projects are subject to review and approval by the municipal planning commission.

Section 11 of the proposed amendments provides that development projects subject to the above programs and occurring within the coastal boundary are also subject to special coastal site plan review requirements. The site plan review procedures would, in practice, consist of the following six steps:

- (1) Initiation of the Review Procedure. As under existing planning and zoning procedures, an applicant would initiate the review process by submitting a complete application and request for approval. This application should contain sufficient data, maps, drawings, and other back-up materials necessary to adequately describe the proposed activity and identify such major components of the activity as the physical extent and nature of the project, coastal resources affected by the project, time sequence and duration of the project, access routes and right-of-ways required by the project, major environmental impacts associated with the project, and any measures which would be employed to mitigate negative environmental impacts. Much of this material is required already under existing zoning procedures with the exception of environmental information. The amount of detail necessary would depend on the size or extent of the project.
- (2) Standard Zoning or Planning Review. Step two of the review process consists solely of standard planning or zoning review as applicable to the proposed activity.
- (3) Review for Potential Impacts. Prior to initiation of a complete coastal site plan review an initial assessment of the activity's potential for significant impact on coastal resources and future water-dependent development activities would be conducted. Advisory guidelines (Appendix D) and resource maps (Appendix F) provided by the CAM Program will assist in making a quick determination of those activities which have the potential to cause a significant coastal impact and are therefore subject to a more complete coastal site plan review. If an activity were determined to have little or no impact on coastal resources and future water-dependent and development activities or was an exempted use (see section 16 of the proposed amendments), it would not be subject to the review procedure (steps 4 and 5). Only standard zoning or subdivision procedures (step 2) would apply.
- (4) Environmental Analysis. When a proposed activity is initially identified as likely to have a significant impact on coastal resources, an assessment of the site to be affected by the proposed activity would be necessary. The assessment would include an inventory of the coastal resource types, processes and other biological and physical resource components of the site. Guidelines (contained in Appendix D) and the CAM-provided maps will aid in determining which resources are affected and important to maintain in order to assure the continued functioning of those resources and to protect the health, safety, and property of the community.

- (5) Project Analysis. During the project analysis of the coastal site plan review, the proposed project would be examined in the context of the proposed site to determine (1) if the resources are capable of supporting the project without sustaining major negative impacts and (2) if the proposed use is suitable for the location. In making these determinations, potential positive and negative environmental impacts resulting from the project would be identified and assessed. In addition, possible alternative designs for the proposed project and possible measures to mitigate the negative impacts could be identified. An analysis of neighboring uses and the potential for future water-dependent development activities would also be required. Again the guidelines would be of assistance in making these determinations.

As part of the project analysis the planning or zoning commission would have the option of requiring a public hearing for buildings, uses or structures which are subject to the zoning regulations as defined by Section 8-3 of the Connecticut General Statutes. Hearings are presently required for the four other categories of activities which would be subject to coastal site plan review.

- (6) Regulatory Decision. The final step in the review process is, of course, the regulatory decision. At this point a decision would be made by the planning and zoning commission on the basis of standard planning and zoning requirements and the goals and policies in Section 3 of P.A. 78-152 as amended by section 2 of the proposed amendments, and the goals and policies issued by the Commissioner of DEP in accordance with section 18 of the proposed amendments. The coastal site plan review guidelines (Appendix D) would also assist in determining the acceptability of project impacts. Projects having unacceptable impacts could be denied or approved with conditions or appropriate modifications which would result in acceptable impacts.

The majority of development projects evaluated by a municipality under the coastal site plan review would not require technical analyses and site inventories beyond the material provided by the applicant and the resource factor maps provided by the Department of Environmental Protection. However, should the need for such services arise, technical assistance would be available from the CAM Unit of DEP. Available resources would include technically trained personnel, resource inventories, maps, photographic surveys and related data. In addition, state financial assistance under federal CZM Act funding could be used by the municipalities for staff or consultant services (either private or through coastal regional planning agencies) to assist in the site plan reviews. For further discussion of the site

plan review process and some examples of how it would work, see Appendix D .

Municipal Coastal Programs -- Sections 7 through 10 of the proposed amendments allow coastal municipalities to prepare and adopt a comprehensive coastal program. Financial and technical assistance would be available from the state for municipalities electing to prepare a coastal program.

Municipal coastal programs would apply to that portion of a municipality within the coastal boundary. A coastal program would be developed in two major phases: (1) revision of the municipal plan of development based on a consideration of the town's coastal resources, the opportunities for water-dependent development and the coastal goals and policies, and (2) revision of municipal zoning ordinances and other land use regulations and ordinances in conformity with the revised plan of development. The primary mechanism for implementing the coastal program would be the site plan review process.

Adoption of a coastal program would enable a municipality to supplement the case-by-case approach of the mandatory site plan reviews. The coastal program would provide the municipality with a comprehensive and long-range view of coastal development opportunities and provide valuable information to facilitate the site plan review process. It would also provide coastal property owners and developers with more specific guidance in planning development projects.

Preparation of a municipal coastal program would occur in the following steps:

- (1) Issues and Problems Identification. The municipal planning commission would identify the major coastal related problems and issues facing the community.
- (2) Revision of the Municipal Plan of Development. The municipal planning commission would prepare revisions of the municipal plan of development after considering (a) the community's coastal problems and issues, (b) the state coastal goals and policies, and (c) the nature and location of coastal resources, future water-dependent development opportunities, existing land use and development patterns and public service needs. At the option of the municipality, other municipal plans such as harbor improvement plans may also be revised.
- (3) Review by the Commissioner of DEP. Proposed revisions of the municipal plan of development and other municipal plans would be submitted to the Commissioner of Environmental Protection for review and comment to insure appropriate consideration of the coastal goals and policies.

- (4) Adoption of Revised Plans. After receiving comments from the Commissioner of Environmental Protection, the municipality would adopt the revisions to the municipal plan of development and other related plans (with changes based on the Commissioner's comments if it desires) in accordance with existing procedural and public participation requirements.
- (5) Revisions to Municipal Land Use Regulations. After adopting revisions to its plan of development, the municipality would prepare revisions to its zoning, subdivision and planned unit development regulations and other land use regulations and ordinances to conform to the revised plan of development and to implement the coastal goals and policies.
- (6) Review by the Commissioner of DEP. Proposed revisions to municipal land use regulations and ordinances would be submitted to the Commissioner of Environmental Protection for review and comment to insure appropriate consideration of the coastal goals and policies.
- (7) Adoption of Revised Land Use Regulations. After receiving comments from the Commissioner of Environmental Protection, the municipality would adopt the revisions to land use regulations and ordinances (with changes based on the Commissioner's comments if it desires) in accordance with existing procedural and public participation requirements.
- (8) Implementation. Implementation of the municipal coastal program would occur through existing regulatory and development programs, and in particular, the coastal site plan review process.
- (9) Amendments. Future amendments or revisions to the municipal plan of development and land use regulations for the area within the coastal boundary would be undertaken in accordance with steps (2) through (7).

Appendix E contains a model municipal coastal program. The model program explains in greater detail the preparation of a coastal program. It also contains maps which illustrate the types of changes to municipal plans and zoning regulations which are consistent with the coastal goals and policies.

PLAN COORDINATION

The federal Coastal Zone Management Act requires coastal states to coordinate their management program with other state, regional, and local government plans and planning programs affecting the coastal zone. Listed below are those government agencies identified by the Connecticut Coastal Area Management Program as having major coastal related plans and planning capabilities. A brief summary of the plan or program toward which CAM has directed its coordination efforts is also included. It should be noted that this subsection is intended to highlight major plans and planning responsibilities as required in Section 923.56 of the federal CZM regulations. This subsection is not intended to provide an in-depth discussion of agency plans and planning programs nor is it intended to provide a comprehensive review of all relevant agency responsibilities.* For a discussion of the roles and responsibilities of other Connecticut agencies in the CAM program, see the discussion of organizational roles and responsibilities in an earlier part of this section.

Department of Transportation--The Department of Transportation prepares the annual Connecticut Master Transportation Plan which serves as the basis for implementing statewide transportation improvement programs.

Department of Economic Development--The Department of Economic Development is presently preparing an Economic Plan for the state covering such topics as manpower training, taxation, and industrial growth and decline.

Office of Policy and Management (OPM)--The Office of Policy and Management is charged with general state planning activities including preparation of the Conservation and Development Policies Plan. OPM also shares responsibility with the Department of Economic Development and the Department of Environmental Protection for Outer Continental Shelf Exploration and other energy related planning activities.

*Additional information on Connecticut plans and planning programs and the relevant responsibilities of other Connecticut agencies is available in: The unpublished Department of Planning and Energy Policy report, Review of Plans and Planning Processes, prepared under contract to CAM; CAM Planning Report No. 9: Major Public and Private Interests in the Coastal Area: An Overview of the Present Management System; CAM Planning Report No. 16: Major Policy Options for State Involvement in Coastal Management; CAM Planning Report No. 21: Discussion Papers: Options and Recommendations for a Connecticut Coastal Management Program, Part II;

Department of Environmental Protection--The Department of Environmental Protection is responsible for a number of coastal related planning programs focusing upon:

- air quality (State Implementation Plan for Air Quality)
- water quality (Section 208, 303(e) and 201 planning requirements of the Clean Water Act)
- fisheries management
- solid waste management
- recreation (State Comprehensive Outdoor Recreation Plan)

Connecticut Resource Recovery Authority--The Connecticut Resource Recovery Authority is in the process of developing and implementing a statewide solid waste recovery system. This system is outlined in the State Solid Waste Management Plan.

Thirty-six Coastal Municipalities--The planning commission (or combined planning-zoning commission) of each municipality is responsible for preparing, adopting, and amending a municipal Plan of Development.

Coastal Regional Planning Agencies--Each Regional Planning Agency prepares a Regional Plan of Development which sets forth general use recommendations for the area under its jurisdiction.

Tri-State Regional Planning Commission--This planning organization has broad transportation and comprehensive planning responsibilities for the interstate urban regions of Connecticut, New York, and New Jersey.

New England River Basins Commission (NERBC)--The New England River Basins Commission's planning responsibilities focus on river basin planning; comprehensive, coordinated joint planning; and regional coastal planning. To date, the Long Island Sound Study is one of the major NERBC plans concerning Connecticut's coastal resources.

In the course of developing the management program, a number of mechanisms have been utilized by the Coastal Area Management Program to ensure coordination with the above plans and planning programs. From its inception, the CAM program has been guided by an Advisory Board which has served as a major forum for program coordination.

* and an unpublished CAM white paper, Recommendations for the Functional Responsibilities and Organizational Framework of the Section 306 Coastal Management Program.

As noted in Section IX, the Advisory Board includes representatives from seven state agencies and all of the coastal Regional Planning Agencies. The CAM Advisory Board has been utilized throughout the program's development to establish policy direction, to provide continuing advice, to act as a sounding board on major issues, and to coordinate management program development with relevant Connecticut agencies. A listing of all formal Advisory Board meetings is presented in Appendix L.

In addition, to ensure coordination during program development, CAM has maintained a continuous liaison with state, local, and regional officials. Coordination efforts with officials have included numerous workshops and meetings; widespread distribution of CAM planning reports and the "Land's End" newsletters; and other public participation endeavors. For a listing of CAM's meetings, workshops, and public participation engagements, see Appendix L.

Contractual work assignments to independent agencies are a further mechanism which have been used by CAM to ensure coordination. In this respect, the Regional Planning Agencies, the Office of Policy and Management, and the Department of Economic Development have contributed to program development by assisting CAM in data collection and analysis and formulation of program recommendations.

Regional and interstate coordination has been handled primarily through the A-95 review process, the NERBC New York-New England Coastal Zone Task Force, and direct contacts with neighboring states. In keeping with the A-95 review requirements, CAM's federal grant applications have been circulated by the authorized "clearinghouses" (Tri-State, Connecticut River Estuary and Southeastern Regional Planning Agencies, Office of Policy and Management) for review and comment. The NERBC New York-New England Coastal Zone Task Force was organized in direct response to CZMA coordination requirements as a forum for discussion of state programs and issues of common concern. As noted in Appendix L, Connecticut has served as an active member of the Task Force since its inception. Connecticut has also established a number of informal working relationships with individuals in the New York and Rhode Island Coastal Programs thereby enhancing and facilitating the flow of information between neighboring states.

Because of CAM's ongoing coordination efforts, there are no conflicts between the management program and the previously identified local, regional, state, and interstate plans and programs requiring resolution at this time. This conclusion is supported by the unpublished report prepared by the Department of Planning and Energy Policy (now the Office of Policy and Management) under contract to CAM. This report, entitled Review of Plans and Planning Processes, reviewed all major Connecticut plans and planning programs and identified no existing or anticipated plan conflicts with the coastal management program.

Continuing Plan Coordination

The proposed amendments to the Coastal Management Act (see Appendix C) incorporate a number of provisions designed to ensure continuing cooperation, consultation and coordination with the planning programs identified above. The mechanisms for continuing coordination are discussed below.

Coordination of State Plans -- Section 23(a) of the proposed amendments requires that all major state plans affecting the coastal area shall be consistent with the coastal goals and policies. Existing plans are required to be revised within 18 months, after consultation with the Commissioner of DEP to insure such consistency.

Local Plans -- Sections 7, 8 and 10 of the proposed amendments require that municipalities adopting a coastal program shall follow the coastal goals and policies in revising and amending local plans. The plans of municipalities which do not choose to prepare a coastal program need not be consistent with the coastal goals and policies. However, such municipalities are required to follow the goals and policies in making determinations concerning development project site plan reviews. Thus, the site plan review process will, in those municipalities, serve as an ad hoc planning process.

Regional Planning Agencies Development Plans -- Section 8-35a of the General Statutes requires that the preparation of a regional plan of development "be based on studies of physical, social, economic and governmental conditions and trends." Since the CAM Program is a major "government condition" the regional planning agencies must consider the CAM Program and its goals and policies in revising regional plans.

Coordination with Interstate Plans -- Coordination with the Tri-State Regional Planning Commission and the New England River Basins Commission (including, in particular, its New York-New England Coastal Zone Management Task Force) will be handled through the state's representatives to those organizations.

Coordination with Federal Plans -- Coordination with federal agencies will be handled through both the "federal consistency" process (see the discussion on federal consistency in a later part of this section) and through the "federal A-95" review process. Federal agencies will also have an opportunity to comment on the state's approval for federal funding under Section 306 of the CZM Act.

Other Means of Plan Coordination -- Consultation with state and regional planning agencies will also be maintained through the continued existence of the CAM Advisory Board. The CAM Advisory Board has representatives of both state and regional planning agencies. The Board will continue to advise the Commissioner on coastal management

issues. The Commissioner of DEP is required by section 6 of the proposed amendments to continue consultation with, and hold periodic workshops for, municipal officials. Finally, the annual report prepared by the Commissioner of DEP in accordance with section 20(c) of the proposed amendments must address problems in plan coordination.

FEDERAL CONSISTENCY

Introduction

The Coastal Zone Management Act (CZMA) of 1972 requires that any federal agency conducting activities significantly affecting the coastal area of any state shall do so in a manner that is consistent with the state's approved management program.

The Office of Coastal Zone Management has provided coastal states, federal agencies and other interested parties with regulations (15 CFR Part 930) that set forth the policies and procedures necessary for the implementation of the federal consistency provisions (Section 307) of the Coastal Zone Management Act.

The State agency designated to administer and review federal actions in Connecticut to determine their consistency is the Coastal Area Management (CAM) Program. This agency is responsible for securing the necessary review and comment from other state, regional or local government agencies and is the only agency authorized to comment officially on a federal consistency determination, concur with or object to a previously determined consistency certification, or determine the consistency of a proposed federal assistance activity.

It should be pointed out that for activities, projects or grants requiring a state license or permit that an affirmative consistency determination by CAM, based on general CAM program goals and policies, does not guarantee that any necessary state licenses or permits will also be affirmative.

In the interest of brevity, the meaning of the definitions and explanations of the consistency provisions contained in 15 CFR Part 930 will not be repeated here and are hereby adopted by reference. Additionally, the procedures and requirements for consistency by federal agencies are adopted as the procedures and requirements which the Connecticut Coastal Area Management Program expects federal agencies to follow.

The above regulations set up four categories of federal actions that require a consistency review. These categories are as follows: direct federal activities and development projects; federally licensed and permitted activities; federally licensed and permitted activities described in detail in OCS*(Outer Continental Shelf) plans; and federal assistance to state and local governments. Direct federal activities and development projects that "significantly affect" the coastal area must be conducted in a manner that is "consistent to the maximum extent practicable" with Connecticut's approved coastal management program. Activities in the latter three categories must

*OCS Plan - the term "OCS Plan" means any plan for the exploration or development of, or production from, any area which has been leased under the Outer Continental Shelf Lands Act (43 USC Sec. 1331 et seq).

be certified by the state to be "consistent" with its management program before the license, permit or grant is approved by the federal agency.

Direct Federal Activities and Development Projects

General -- Direct federal activities include any functions performed by or on behalf of a federal agency in the exercise of its statutory responsibilities. A development project is defined as any federal activity involving the planning, construction, modification or removal of public works facilities or other structures, and the acquisition, utilization, or disposal of land or water resources.

Activities and Projects Subject to Consistency Review -- Federal activities and development projects are subject to a consistency review if it is determined that these activities or projects will "significantly affect" the coastal area. Actions or projects are deemed to have a "significant affect" if they cause:

- Changes in the manner in which land, water, or other coastal area natural resources are used;
- limitation on the range of uses of coastal area natural resources; or
- changes in the quality of coastal area natural resources.

The term "significant affect" or "significantly affecting the coastal zone" describes the coastal zone effect caused by a federal activity (including development projects), a federal license or permit activity (including OCS activities), or a federal assistance activity which is sufficient to trigger the responsibility for complying with federal consistency requirements.

The issue of whether a particular type of federal action (e.g. federal activity, development project, license, permit or assistance) significantly affects the coastal zone is separate from whether the proposed action satisfies the relevant consistency requirements of the Act. The former issue simply addresses a test (described above) which, once met by a federal action, leads to an opportunity for state agency review of the proposed action. During the consistency review stage, the issue of the consistency of the proposed federal action (with the state's management program) is analyzed and resolved.

Under the consistency regulations, direct federal activities and development projects in the coastal area must be consistent with the management program to the "maximum extent practicable." According to the federal regulations, "maximum extent practicable" means capable of being done to the fullest degree permitted by existing federal law. It should be noted that a federal license or permit activity (including OCS activities), or a federal assistance activity must meet simple "consistent with the state's management program" criteria.

Federal agencies shall determine which of their activities significantly affect Connecticut's coastal area and shall consider all development projects within the coastal area to have a significant affect. In order to facilitate this determination, a preliminary listing of federal activities and development projects is provided in Table H-1 (Appendix H). A final list will be prepared following public review and comment from the respective federal agencies.

Notification Process

Federal agencies must provide the Connecticut Coastal Area Management (CAM) Program with consistency determinations at the earliest practicable time in the planning of the activity, preferably before the activity or project reaches a decision stage likely to restrict the evaluation of alternative approaches. In any case, the consistency determination must be provided to the CAM Program at least 90 days before final approval of the federal activity or project. Although use of existing notification procedures is not required, federal agencies are encouraged to provide consistency determinations through existing mechanisms such as OMB Circular A-95 and NEPA environmental impact statements.

The consistency determination must contain the following:

- a brief statement indicating whether or not the proposed activity or project will be undertaken in a manner consistent to the maximum extent practicable with Connecticut's CAM Program;
- an evaluation of the relevant provisions of the program, particularly the CAM Program's goals and policies;
- a detailed description of the activity or project, their associated facilities, and their coastal area effects;
- comprehensive data and information sufficient to support the federal agency's consistency statement.

State Review Process

Pursuant to Section 930.41 (15 CFR Part 930) the state shall inform the federal agency of its agreement or disagreement with the federal agency's consistency determination at the earliest practicable time, but in no case later than 45 days following receipt of federal notification, unless an extension has been granted. State concurrence is presumed if no response is received within the 45 day period. The state may request and shall be given one 15 day extension; longer or additional extensions may be granted by the federal agency.

Upon receipt of federal notification, the CAM Program will notify the Coastal Area Management Advisory Board and any affected agencies, organizations or individuals. Additionally, either the CAM Program or the Central Planning and Coordination Unit within the Department of Environmental Protection will notify all affected DEP units. The CAM Program shall be responsible for compiling comments and responding to the federal agency.

If the Coastal Area Management Advisory Board elects to review the federal agency's consistency determination, the procedures for Advisory Board review outlined under Federal Licenses and Permits will be followed. The Advisory Board's recommendation to CAM will be part of the record upon which the CAM Program's concurrence or objection to the federal agency's consistency determination is based.

State Agency Disagreement

In the event that the CAM Program disagrees with the federal agency's consistency determination, CAM will respond to the agency with its reasons for disagreement and any necessary supporting information. The response will describe:

- how the proposed activity will be inconsistent with specific elements of the CAM Program;
- alternative measures, if feasible, which if adopted by the federal agency would make the proposed action consistently; and
- the nature and necessity of additional information that would be necessary to determine the consistency of the activity or development.

CAM will send copies of its objections to the affected federal agency and to the Associate Administrator of NOAA.

In the event of disagreement, the state will utilize the remaining portion of the 90 day review period to attempt to resolve its differences with the federal agency. Federal agencies are requested to refrain from undertaking the proposed activity or project beyond the 90 day notification period in order to allow a non-judicial resolution to the disagreement.

Mediation

Provisions have been made and a procedure described in subparts G and H of NOAA regulations published in the Federal Register of March 13, 1978 (15 CFR Part 930 Section 930.120 through 930.134) by which the Secretary of Commerce may mediate disagreements arising from consistency determinations for (a) federal activities and development projects; (b) federal licenses and permits; (c) OCS plans; and (d) federal assistance to state and local governments. These provisions are incorporated by reference into the Connecticut Coastal Area Management Program.

In all cases of conflict or objection relating to a federal consistency determination under the above listed categories, the CAM Program will seek resolution of the conflict or objection through informal meetings with the affected federal agency or applicant. In any case, the CAM Program will inform the federal agency or applicant of the appeal and mediation provisions relating to the specific consistency determination at issue.

Federal Licenses and Permits

General -- The term federal license or permit means any authorization, certification, approval, or other form of permission which any federal agency is empowered to issue to an applicant. OCS leases and permits are not covered in this definition and they are explained in detail in the following section describing OCS Exploration, Development and Production Activities. Activities which require a federal license or permit and which affect lands or water within Connecticut must be consistent with the CAM Program.

Listed Licenses and Permits (Within and Outside the Management Boundary) -- All of the licenses and permits listed in Table H-2 Appendix H for activities occurring within Connecticut's coastal management boundary are considered as significantly affecting Connecticut's coastal zone and, therefore, are subject to consistency certifications and review. Licenses and permits listed which relate to activities occurring outside the boundary established pursuant to Connecticut's Coastal Area Management Program will be considered to significantly affect the coastal zone if they:

- (a) could result in a significant change in air or water quality or quantity within Connecticut; or
- (b) involve activities in close proximity to Connecticut's coastal boundary and could lead to significant land or water use pattern impacts, require new or expanded facilities or services within Connecticut, or have

the potential to adversely impact the conduct of commerce, trade, or agricultural pursuits within Connecticut; or

- (c) involve actions which could impact commercial or recreational fishing, marine transportation, or other uses of the state's coastal waters or submerged lands; or
- (d) involve the transport, storage or handling of hazardous or toxic materials such that spills or other accidents could impact Connecticut's land or waters.

The list of federal licenses and permits may be refined by the CAM Program following consultation with the affected federal agency and approval of additions or deletion by the Associate Administrator of NOAA.

Unlisted Licenses and Permits -- Section 930.54 of the federal regulations pertaining to Federal Consistency (15 CFR 930) provides that state agencies, with the assistance of federal agencies, may monitor other federal license and permit activities which may reasonably be expected to significantly affect the state's coastal zone. Connecticut proposes to monitor unlisted federal license and permit activities through the A-95 Process, State and Regional Clearinghouses, NEPA environmental impact statements, and routine reporting of regional resource agencies (New England River Basins Commission, New England Regional Commission, etc.).

Notification Process - Applicant's Responsibility -- Federal agencies are required to inform applicants for listed federal licenses and permits of the applicant's responsibilities for notification to the state and submission of required information including a consistency certification. Form of notice and the consistency certification shall comply with Sections 930.57 and 930.58 (15 CFR Part 930).

These requirements shall also apply to unlisted licenses and permits and to licenses and permits for activities occurring outside of Connecticut's coastal management boundary if the CAM Program notifies the federal agency, the applicant and the Associate Administrator of NOAA within 45 days of the public notice of the federal license or permit.

Applicants should, as a preliminary matter, seek the views of the state and seek the assistance of the CAM Program regarding the means for ensuring the proposed activity will be coordinated in a manner consistent with the Connecticut program.

As a convenience to applicants, federal agencies are requested to list the requirements for consistency determinations on their application forms and inform the applicant of the address and telephone number of the designated Connecticut consistency agency (CAM Program).

At the same time that an application for a listed federal license or permit is submitted to the federal agency, the applicant will transmit a copy of the application and consistency certification in the form specified by Sections 930.57 and 930.58 to the state. If the application would ordinarily be sent to a state agency other than the CAM Program, a duplicate copy must also be sent to CAM.

State Review Process -- Pursuant to Section 930.60, state review of a federal license or permit application commences at the time the CAM Program receives a copy of the consistency certification and supportive information in the form specified under Sections 930.57 and 930.58. Public notification of the application will be carried out by the most applicable procedure listed below. Wherever possible, federal and state agencies are encouraged to issue joint public notices to minimize duplication of effort and to avoid unnecessary delays.

- (a) In cases where a federal agency reviewing an application for a license or permit is required to give public notification by way of the A-95 notification process or through NEPA environmental impact statements, the CAM Program will rely upon these notification procedures.
- (b) In those cases that require public notification by a state agency (NPDES, 401 Water Quality, USACE 404 Permits, etc.), notification will be carried out by the state agency utilizing that agency's notification procedures as well as required state procedures.
- (c) In all other cases, public notice will proceed as follows:

1. The CAM Program will give reasonable notice, at least 30 days public notice, prior to the date the CAM Program plans to respond to the certification;
2. The notice shall describe the subject matter of the certification review; including a summary of the proposed activity and an announcement of the availability for inspection of the consistency certification and accompanying public information;
3. The notice shall request interested parties to comment on the proposed activity;
4. The notice shall provide the date, time, and place of any hearing which the CAM Program decides to hold on the certification review, if any;
5. The notice shall be published in at least two Connecticut newspapers of general circulation;
6. Notice shall also be otherwise provided in the immediate area of the coastal zone which is likely to be significantly affected by the proposed activity, if the notice in 5 above is inadequate for this purpose;
7. Public notice shall be expanded in proportion to the degree of likely public interest involved, the substantial commitment of or impact on coastal resources, the complexity or controversy of the proposal, or for other good cause.

If the CAM Program holds public hearings on certification reviews, they shall be scheduled with a view towards (1) allowing access to the consistency certification and accompanying public information within a reasonable time prior to the hearing, (2) facilitating broad public attendance and participation at the hearing, and (3) affording the applicant expeditious consideration of the proposed activity.

Review by Coastal Area Management Advisory Board

In order to facilitate review of applications and consistency certifications, notice will be sent to the Coastal Area Management Advisory Board. The Advisory Board review will include consideration of the application and supportive information to determine if:

- (a) the proposed activity conflicts with the objectives and policies of the Connecticut Coastal Area Management Program;

- (b) the proposed activity by itself, or in consideration with existing projects, would cause a violation of a Connecticut statute or regulation contained in the program or result in an adverse impact of an unacceptable nature as defined by the management program; or
- (c) alternative measures exist, which if adopted by the applicant would permit the proposed activity to be conducted in a manner consistent with the management program.

The Advisory Board will render its recommendation to the CAM Program and such recommendation will be part of the record upon which the CAM Program's consistency certification decision is based.

State Concurrence with a Consistency Certification - Notice and Process -- At the earliest practicable time, but not sooner than 60 days after receipt of the certification in acceptable form, the CAM Program shall notify the federal agency and the applicant whether it concurs or objects to the consistency certification. Concurrence shall be in writing. Concurrence by the CAM Program shall be automatically and conclusively presumed if CAM does not respond within six months of the commencement of the CAM review. If the CAM Program has not issued a decision within 90 calendar days of the commencement of the review, CAM shall notify the federal agency and the applicant of the status of the matter and the basis for further delay.

Federal Action When CAM Concurs with a Consistency Certification -- If CAM issues a concurrence (or concurrence is conclusively presumed) with the applicant's consistency certification, the federal agency may approve the application for a license or permit. If a federal agency determines that it will deny an application, early notification to the CAM Program is desired in order to avoid an unnecessary consistency review.

Federal Action When CAM Objects to a Consistency Certification -- At any time during the six months following commencement of the review period, CAM may object to the consistency certification. Such objection will be contained in a written notice to the applicant, the federal agency and the Associate Administrator of NOAA. The notice will describe how the proposed activity is inconsistent, any alternatives which will make the project or activity consistent, and the nature and necessity of any information required to determine program consistency. Upon receipt of the State's objection, the federal agency shall be prevented from granting the federal license or permit, except where permitted upon approval by the Secretary Commerce based upon a finding that the proposed activity is consistent with the purposes of the Federal Coastal Zone Management Act or in the interest of national security (15 CFR 930, subpart H).

Mediation -- See Mediation section contained under Direct Federal Activities and Development Projects.

Waiver of Review -- The CAM Program may, after program approval, establish procedures to waive the consistency review for certain classes or types of projects based on a consideration of their size, scope, location or extent of state and local control. Such waivers will be considered whenever the objectives of the CAM Program are met, when in the opinion of the state adequate safeguards are built into state and local permitting authority, or when the interests of the public and the applicant are best served by such action. Waivers will apply only to the State Review Process set forth above, not to the requirements placed on the applicant for a consistency determination.

OCS Exploration, Development and Production Activities

General -- Subpart E of 15 CFR Part 930 provides that OCS plans submitted to the U.S. Secretary of the Interior for Outer Continental Shelf exploration, development and production, and all associated federal licenses and permits described in detail in such OCS plans, shall be subject to a determination of their consistency with a state's coastal management program. To be included in a consistency determination are: (a) license and permit activities which are described in detail in the OCS plan, such as , permits to drill, rights-of-use and easements for the construction and maintenance of structures, platforms, gathering and flow lines; and (b) OCS-related licenses and permits, such as for pipeline corridors, artificial islands or other fixed structures, transport of dredged materials, and discharges or emissions subject to the Federal Water Pollution Control Act of 1972 or the Clean Air Act of 1970.

A certification of consistency for each activity described in detail in the OCS plan shall be attached to the OCS plan at the time it is submitted to the Secretary of the Interior. No federal official or agency shall grant any license or permit for any activity described in detail in the OCS plan until the state has received such certification and plan together and until the state has concurred or conclusive concurrence is presumed.

OCS plan license and permit actions not described in detail in the OCS plan are subject to the provisions for federal licenses and permits (see preceding section).

Notification Process -- Any person submitting to the U.S. Secretary of the Interior any OCS plan must provide the Department of the Interior with a consistency certification, attached to the OCS plan, and must furnish the CAM Program with a copy of the OCS plan (excluding proprietary information) and a consistency certification.

When satisfied that the proposed activities described in detail in the OCS plan meet the federal consistency requirements, the OCS lessee or operator shall declare in the consistency certification that:

"The proposed activities described in detail in this plan comply with Connecticut's approved coastal management program and will be conducted in a manner consistent with such program."

Supporting information to accompany the certification will include the comprehensive offshore, nearshore and onshore data and material required by the Department of the Interior's operating regulations governing exploration, development and production operations on the OCS (30 CFR 250) and regulations pertaining to Interior's OCS information program (30 CFR Part 252) and must also include a brief assessment of the probable coastal zone effects, and a brief set of findings indicating that the proposed activities, their associated facilities, and their combined effects, are all consistent with the provisions of the management program.

State Review Process -- The CAM Program will utilize the State Review Process described under Federal Licenses and Permits for purposes of consistency review of OCS Exploration, Development and Production Activities.

State Concurrence with Consistency Determination -- At the earliest practicable time, but not sooner than 60 days, the CAM Program will notify the person and federal agency whether it concurs with or objects to the consistency certification. If the state issues a concurrence, it will notify both the Secretary of Commerce and the Secretary of the Interior. Concurrence by the state agency shall be conclusively presumed in the absence of an objection within three months following commencement of state review.

If the CAM Program has not issued a decision within 90 days following the beginning of review, it will notify the person and the Department of the Interior of the status of the matter and the basis for further delay.

If the state issues a concurrence or is conclusively presumed to concur, the person will not be required to submit additional certifications and supporting information for state review at the time federal applications are actually filed for the federal permit activities described in detail in the OCS plan provided that the OCS plan is not amended or substantially altered. The lessee or operator must, however, supply the CAM Program with copies of permit applications to allow the state to monitor the approved OCS activities.

State Objection to a Consistency Determination -- In the event the State objects to the person's OCS plan certification, it will accompany its objection with reasons and supporting information concerning each activity which the state finds to be inconsistent with the management program. The state's objection will include a statement informing the person of a right to appeal to the Secretary of Commerce on the ground described below. Following receipt of a state agency objection, federal agencies may not issue any of the licenses or permits for activities described in detail in the OCS plan.

Mediation -- See Mediation section contained under Direct Federal Activities and Development Projects.

Federal Assistance to State and Local Governments

General -- Federal consistency provisions (Subpart F, 15 CFR Part 930) provide that state and local governments submitting applications for federal assistance affecting a state's coastal zone shall certify that such applications are consistent with the state's coastal management program.

The term "federal assistance" means assistance provided under a federal program to an applicant agency through grant or contractual arrangements, loans, subsidies, guarantees, insurance, or other forms of financial aid. An applicant agency refers to any unit of state or local government which, following management program approval, submits an application for federal assistance.

A federal agency may not grant federal assistance if a state objects on the grounds that the proposed action to be supported by federal assistance is inconsistent with the state's coastal management program.

Listing of Applicable Federal Assistance Programs -- A state coastal management program must include a listing of federal assistance programs for which a consistency review is required. Table H-3, AppendixH provides a tentative list of federal assistance programs which are subject to the consistency review.

Notification Process -- The CAM Program shall be notified of the federal assistance application as a result of the Office of Management and Budget A-95 process, which provides for the evaluation, review and coordination of federally assisted programs (see 41 Federal Register 2052 (1976)).

The A-95 clearinghouses must ensure that the CAM Program is afforded an opportunity to review proposed federal assistance projects. If during the A-95 process the CAM Program does not object to the proposal, the federal agency may grant the federal assistance, assuring that all other conditions and matters raised during the A-95 process are satisfactorily resolved.

State Review Process -- The process established by the State and Regional Clearinghouses will be followed for purposes of this review. In most cases it can be expected that as a result of consultation among the state and federal agencies and the applicant agency, CAM approval will expeditiously occur followed by federal approval of the assistance request. This process will ensure that public funds are expended not only in accordance with federal law, but also in a manner which provides that the new projects will be consistent with

the Coastal Area Management Program. In addition, the state will be provided with information necessary to plan for and manage the anticipated coastal impacts which will result from the proposal.

Applicants for federal assistance which are subject to the consistency review must so indicate in their application. The indication of consistency with the Connecticut Coastal Area Management Program must include as a minimum:

- (a) geographic location of the proposed project for which federal assistance is requested in sufficient detail as to allow the CAM Program to determine which coastal resources may be affected;
- (b) description of the proposed project including, where applicable, scope, nature, timing, public facility and service requirements, population impact, employment impact, total cost, and other features or characteristics in sufficient detail to allow for review of the proposed project relative to the Connecticut CAM Program;
- (c) a certification determination executed by the chief executive officer of the governmental agency or unit making the application. The following form is recommended:

"I, (Name), as (Title) of (Agency or applicant), hereby certify that the proposed use of federal assistance contemplated by this application is consistent with the Connecticut Coastal Area Management Program and will be expended in a manner consistent with that program."

State Objection to Federal Assistance Application -- In the event the CAM Program objects on grounds of inconsistency with the Connecticut Program to the applicant agency's proposal, it must accompany its objections with reasons and supporting information. The A-95 clearinghouse must then notify the applicant agency and the federal agency of the state's objection and must inform the applicant agency of its right to appeal to the Secretary of Commerce. Additionally, the CAM Program will notify the applicant agency and the federal agency directly of the objections to the application as well as the applicant agency's right to appeal to the Secretary of Commerce. Following receipt of the CAM Program's objection, the federal agency may not grant the federal assistance.

State CAM objections will: (a) describe how the proposed project is inconsistent with specific elements of the management program; (b) indicate alternative measures, if any, which if adopted would make the proposal consistent; and (c) if the objection is on the basis of insufficient information, indicate the nature of the information and

necessity of having such information to determine the consistency of the activity with the Connecticut CAM Program.

Mediation -- See Mediation section contained under Direct Federal Activities and Development Projects.

RESOLUTION OF CONFLICTS CONCERNING COASTAL DEVELOPMENT

Under Connecticut's approach to coastal management, municipal, state and federal agencies will all continue to play an active role in making regulatory and development decisions affecting the coast. The major mechanism for preventing and resolving conflicting decisions among the agencies is the coastal goals and policies which will guide the actions of all agencies.

Municipalities will follow the goals and policies in making case-by-case decisions concerning the private and municipal development projects under their jurisdiction and in preparing the voluntary municipal coastal programs. State agencies will follow the coastal goals and policies in making regulatory decisions, in designing state development projects, in preparing environmental impact statements and in revising state plans. (It should be noted that conflicts concerning municipal and state development projects will often be avoided because such projects are subject to state regulatory program jurisdiction. Most major municipal and state projects occurring within the coastal boundary and all such projects occurring seaward of the mean high water mark will require a state permit.) Federal agencies, under the "federal consistency" process, will follow the goals and policies in making regulatory decisions, allocating grants, and undertaking development projects. Because the decisions of all agencies affecting the coast are guided by the same goals and policies, conflicts should be reduced.

Of necessity, the coastal goals and policies must be broad enough to permit individual agencies at the federal, state and local levels to apply the other legal criteria they must consider in reviewing a project. It is therefore possible, for example, that in some instances where both a state agency and a local agency have regulatory jurisdiction over the same project that one agency will approve the project and the other one deny approval. This could result from their application of the additional, but different, legal criteria under which they decide.

Inconsistent decisions among agencies at the federal, state and local level or among agencies at the same level of government are, from time-to-time, to be expected. What must be guarded against are inconsistent decisions due to inadequate or improper consideration of the coastal goals and policies. There are three mechanisms for insuring proper consideration of the coastal goals and policies by all public agencies. In essence they provide a system of intergovernmental checks and balances with respect to consideration of the coastal goals and policies.

Municipal Right as a Party -- Section 21 of the proposed amendments gives coastal municipalities the right to participate in and to appeal the court's permit decisions of the Commissioner of Environmental Protection when such decisions concern the area within the coastal

boundary. Through this mechanism, coastal municipalities can insure that information that they believe is relevant is presented to the Commissioner for consideration. It also allows municipalities to present their interpretation of the coastal goals and policies to the Commissioner and to challenge in court what they believe to be inadequate consideration of the goals and policies by the Commissioner.

Commissioner's Right as a Party -- Section 22 of the proposed amendments gives the Commissioner of DEP the right to participate in or to appeal the decision of a municipal agency made in accordance with the site plan review requirements. Through this mechanism the Commissioner can insure that all relevant information is presented to the agency for its consideration. It also allows the Commissioner to present the Department's interpretation of the coastal goals and policies and to challenge in court what the Department believes to be inadequate consideration of these goals and policies by a municipal agency.

"Federal Consistency" -- The "federal consistency" provisions of the federal CZM Act, and regulations thereunder, provide for administrative and judicial appeals concerning the consistency of federal agency decisions with the state's coastal goals and policies. A full discussion of these appeal procedures can be found in the discussion of "federal consistency" in the previous part of this Section.

SECTION VII

SPECIAL MANAGEMENT AREAS

GEOGRAPHIC AREAS OF PARTICULAR CONCERN

Introduction

The federal Coastal Zone Management Act recognizes the fact that certain areas in the coastal zone embody unique coastal-related values and that these areas require special management attention. The CZMA requires each state to include in its management program "an inventory and designation of areas of particular concern within the coastal zone." While no specific management techniques are required for these areas, sufficient authority must exist and other techniques must be used to protect these resources and to encourage uses for which they are best suited.

Connecticut's approach to the designation and subsequent management of areas of particular concern takes into account both the physical nature of the coast and the state's approach to coastal management. The diverse and segmented nature of the Connecticut coast has necessitated a comprehensive resource management approach to resolving conflicts among the many uses in the coastal area. Under the coastal management program, virtually all uses and resources will be managed at either the federal, state, or local level of government. Therefore the primary objective in designating areas of particular concern is to focus public attention on certain significant areas that are distinguished by unique coastal-related values including their economic and ecological importance.

An initial inventory of potential areas of particular concern was completed by the coastal regional planning agencies during the early stages of program development. This inventory was supplemented with information gathered by the Coastal Area Management Program staff on critical habitats, other important natural areas, and areas of economic significance. Four options for designating areas of particular concern are discussed in CAM Planning Report No. 20 (1977). Subsequently, three basic criteria were developed to select areas of particular concern.

These criteria are as follows:

- (1) The resource should be of regional or statewide significance based on its ecological and/or economic values.
- (2) The resource should be coastal related--i.e. the area should be directly related to natural and man-made coastal systems and processes. Thus APC's should be unique in or to the coastal area including the riverine and estuarine components of the coastal area.
- (3) Adequate legal authorities (state or federal) must be available to promote desired uses of the area.

Based on these criteria, the following four generic categories of areas of particular concern are designated as part of Connecticut's coastal management program:

- (1) Tidal Wetlands
- (2) Shellfish Concentration Areas
- (3) Federal Navigation Channels
- (4) Dredged Spoil Disposal Sites

All of these areas have been mapped at a statewide scale of 1:125,000. In addition, tidal wetlands, shellfish areas, and federal navigation channels have been mapped at the quadrangle base scale of 1:24,000 (see Coastal Maps, Appendix F).

It should be noted that tidal wetlands, shellfishing areas and federal navigation channels have also been designated as in the national interest (see - Section 3(14) proposed amendments to the Connecticut Coastal Management Act, Appendix C).

Description of APC's

Tidal Wetlands

Rationale--Tidal wetlands are areas which border on or lie beneath tidal waters, such as banks, bogs, salt marshes, swamps, meadows, flats or other lowlands subject to tidal action and which have surfaces at or below an elevation of one foot above local extreme high water. This includes regulated and unregulated areas as defined by Section 22a-29 of the Connecticut General Statutes.

As areas of high biological productivity, tidal wetlands are an important link in the food chain of the Long Island Sound and adjacent shorelands. They provide habitat, nesting, feeding and refuge areas for shore birds, nursery grounds for larval and juvenile forms of many marine species, and a significant habitat for shellfish.

Tidal wetlands provide economic and social benefits to the people of Connecticut. In addition to providing recreational and educational

opportunities, they act as water purifiers by trapping sediments, reducing turbidity, and restricting the passage of toxic substances and heavy metals. Healthy wetland vegetation can help to buffer storm and wave energy and stabilize shoreline erosion.

It is estimated that fifty percent of the tidal wetlands that were present in Connecticut in 1914 have been destroyed as a result of man's activities. These activities include filling, dredging, tidal gates, ditching, chemical dumping, and waste disposal. Approximately 15,500 acres of tidal wetlands remain but few exist in their natural state. The Connecticut General Assembly recognized the need to protect the state's remaining tidal wetlands by passing the Tidal Wetlands Act in 1969.

Management Approach--The state Tidal Wetlands Act (CGS Section 22a-28 to 35) gives the Department of Environmental Protection (Water Resources Unit) significant authority for regulating activities in designated tidal wetlands. A permit must be obtained from DEP for virtually any alteration of a wetland including draining, excavation or removal of material, dumping of any material, filling, erection of structures and placement of any obstructions. DEP permit decisions must consider the effect of the proposed activity on the public health and welfare, marine fisheries, shellfisheries, wildlife, flood and storm protection, and the public policy set forth in Sections 22a-28 to 35 of the Connecticut General Statutes. In addition, a permit may be denied if DEP is in the process of acquiring an area of tidal wetlands.

Areas exist that fit the statutory definition of tidal wetlands but have yet to be designated as such. These areas may be regulated under the Inland Wetlands and Watercourses Act (CGS Sections 22a-36 to 45) until such time as they are mapped and designated as state-regulated tidal wetlands.

Other authorities which are relevant to the regulation of tidal wetlands are the state Water Pollution Control Law (administered by DEP pursuant to Section 401 of the federal Clean Water Act), state and local shellfish statutes (CGS Sections 26-187 to 294), Coastal Structures Law (CGS Sections 25-7b to 7f) and Coastal Dredging Law (CGS Sections 25-10 to 25-18). A complete discussion of relevant state authorities appears in Section VI of this document.

The Coastal Area Management Program contains specific policies to guide the regulation of tidal wetlands. Appearing in Parts B (5) (b) and A (7) (d) respectively of Coastal Goals and Policies (Section IV of this document), the policies are as follows:

"Specific Policy: To preserve tidal wetlands and to prevent the despoilation and destruction thereof (CGS Section 22a-28) in

order to maintain their vital functions as a source of high biological productivity, a habitat and nesting, feeding and refuge area for shore birds, a habitat for shellfish, a nursery ground for larval and juvenile forms of marine organisms, a buffer for storm and wave energy; to encourage the rehabilitation and restoration of degraded tidal wetlands; and where feasible and environmentally acceptable, to encourage the creation of wetlands for the purposes of shellfish and finfish management, habitat creation and dredge spoil disposal. (Long Island Sound Study)"

Specific Policy: To disallow new dredging in tidal wetlands except where no feasible alternative exists and adverse impacts to coastal resources are minimal.

Use Priorities--High priorities are preservation, restoration, research and limited recreation. Low priorities are structures, filling, dredging, solid waste disposal, and chemical dumping.

Shellfish Concentration Areas

Rationale--These are areas of submerged land that contain significant concentrations of shellfish including oysters, scallops, quahogs, and clams. They include both natural shellfish habitats and areas that have been "seeded" for aquaculture purposes.

Shellfish concentration areas are important for commercial, recreational, and environmental reasons. Although oystering represents the largest commercial shellfish industry in the state, scallops, quahogs, and clams are of substantial value to sportfishermen and small commercial establishments.

Connecticut's oyster industry used to be among the world's largest. In the early 1900's, it is estimated that three million bushels were harvested annually from the state's waters. By 1970, oyster production was reduced to about 16,000 bushels due to increased pollution levels and the depletion of stocks by overfishing. Shellfish, in general, are susceptible to several types of water pollution including sewage discharge, dredge spoil disposal, dumping of heavy metals, and increased turbidity. In addition, dredging and the erection of structures can inflict direct harm on shellfish beds.

In the last decade, the taking of shellfish, especially oysters, has been increasing in Connecticut. Improved water quality and advanced aquaculture techniques have been the primary reasons for this revival. Particularly significant have been techniques developed to increase oyster production including the spawning of oysters in hatcheries and the removal of adult oysters from polluted nearshore waters to cleaner sites off Long Island where they can purify themselves in approximately two weeks.

At present, there are approximately 40,000 acres of state-owned shellfish beds and 20,000 acres under town control. However, the taking of shellfish is prohibited in many areas by the Department of Health due to high pollution levels.

Management Approach--Both the Department of Agriculture, Aquaculture Division (CGS Sections 26-187 to 26-237) and local agencies (CGS Sections 26-238 to 26-294) lease and regulate shellfish areas under their respective jurisdictions and license the taking of shellfish in bulk or for commercial purposes.

The Department of Health regulates health aspects of shellfisheries (CSG Section 19-55).

Other relevant authorities include the Tidal Wetlands Act (CGS Section 22a-28 to 22a-35), Coastal Structures Law (CGS Section 25-7b to 25-7f), Coastal Dredging Law (CGS Section 25-10 to 25-18), and the Water Pollution Control Law (CGS Section 25-54a to 25-54g, 25-26, 25-27, and 25-54aa). A complete description of relevant authorities appears in Section VI of this document.

The Coastal Area Management Program contains a specific policy with respect to shellfish areas. Appearing in Part A (12)(c) of Coastal Goals and Policies (Section IV of this document), it is as follows:

"Specific policy: To employ improved aquaculture techniques in order to revitalize and increase the number and extent of productive shellfish beds and to restore and maintain healthy and productive bottom conditions."

Use Priorities--Aquaculture, restoration, recreation are high priorities. Dredging, dredge spoil disposal, activities which increase pollution of coastal waters are low priorities.

Federal Navigation Channels and Dredged Material Disposal Areas

Rationale--Connecticut's recreational and commercial ports and harbors have an extensive history of navigational dredging improvements. Materials derived from upland erosion, industrial and municipal discharges and, in large part, from Long Island Sound itself are continually transported to and deposited in the state's estuarine harbors. Unless they are dredged, harbors become unsafe for boating.

Subsequently, the need to maintain these improvements and to dispose of materials removed from various channels and basins have been long-standing. In addition to numerous private anchorages, channels, and basins, more than 30 federal navigation projects

have been instituted in the state's coastal waters since 1892 (Appendix I). While the number of miles of privately dredged and maintained areas is not known, more than 240 applications to conduct dredging in Connecticut's waters were reviewed and approved by state and federal regulators between 1968 and 1977. At present there are approximately 100 miles of federally maintained channels in the coastal area and additional improvements are being contemplated for Bridgeport Harbor, Black Rock Harbor, New Haven Harbor, Clinton Harbor, the Patchogue River and New London Harbor. These federal navigation channels are constructed, maintained, and periodically improved by the U.S. Army Corps of Engineers as authorized by Congress under various Rivers and Harbors Acts.

Unquestionably private and federal navigation works play a major role in influencing the recreational and economic vitality of ports and harbors throughout the coast. Nearly 100,000 recreational vessels are registered in Connecticut and use Long Island Sound. Twenty-three thousand tons of general and bulk cargo worth more than \$111,000,000 (1976 figure) are handled in the state's ports each year including large amounts of petroleum.

In order to maintain and enhance the navigability of the state's ports and harbors, and hence their recreational and commercial viability, it is estimated that a projected 58.9 million cubic yards of material will be removed from rivers and harbors in the state between 1985 and 2035 (Estimated by U.S. Army Corps of Engineers, New England Division). Approximately 38.8 million cubic yards of the total will be removed from federal navigation channels and the remainder will be generated by private dredging.

To facilitate dredging of these projected volumes from Connecticut's waters some provision must be made for disposal of dredged material. Historically, the most common methods of disposing of dredged material were open water dumping in Long Island Sound or land disposal. Until 1970 dredged material was often deposited in tidal wetlands in an effort to "reclaim" them. At that time tidal wetlands were afforded the protection of state regulation under Sections 22a-28 through 22a-35 of the Connecticut General Statutes (CGS). In the past, nineteen aquatic disposal areas were utilized in the Sound. Today only three are still in use. They have been designated as areas of particular concern by CAM and include the following:

- (1) A two square mile area in the middle of the Sound south of New Haven;
- (2) A one mile square area in the middle of the Sound south of the mouth of the Connecticut River; and

- (3) A one mile square area south of the mouth of the Thames River.

The Corps of Engineers is presently sponsoring a study that will identify permanent disposal sites(see below) and it is possible that the locations of designated disposal sites will change over the next few years. For this reason, CAM has designated dredged material disposal sites as APC's on a generic basis.

In addition to open water dumping several other general alternatives for the disposal of dredged material are feasible including beach nourishment (when sand is to be disposed of), habitat development, and contained disposal utilizing diked or bulkhead terrestrial and aquatic areas. Although these techniques may provide realistic alternatives for disposal of dredged material in a number of instances, they are not at present effective means of coping with the total volumes of material generated by ongoing dredging.

Problems--The problems of dredging and dredged material disposal are focused primarily on disposal operations. Whether the dredged material is to be disposed of on land or in open water, key concerns are related to its physical and chemical composition and subsequent impacts on water quality and indigenous biota during and after disposal.

Materials dredged from Connecticut's harbors are variable in their content of contaminants. Harbors in the western end of the Sound are more contaminated than those in the eastern and central areas. Contaminant levels are also variable within individual harbors. Spoils removed from inner more upstream areas exhibit higher levels of pollutants than outer more seaward areas.

The occurrence of pollutants in harbor sediments is the result of a number of factors. Water circulation patterns, industrialization and intense urbanization of harbor areas are important contributors. The historic use of Long Island Sound as a receiver of untreated waste waters has also had a significant effect on the chemical and biological quality of harbor sediments. As a consequence of these land uses and discharges a number of potentially toxic constituents may be found in dredged material. Depending on its origin, sediment may contain significant amounts of volatile solids, oil and grease, heavy metals (mercury, lead, zinc, etc.), pathogenic viruses, bacteria and pesticides.

The environmental impacts of disposing of sediments containing any or all of the noted pollutants are less readily quantified than the presence of the contaminants themselves. Much research has been conducted in an attempt to identify actual disposal impacts. However, many concerns surrounding the disposal operations and their short and long term effects have yet to be resolved. Degradation of water

quality through release of pollutants to the water column; initiation of increased turbidity; elimination of benthic (bottom dwelling) habitat and bio-accumulation of heavy metals, pesticides and organic wastes are central issues involved in aquatic disposal.*

In order to address these concerns on a case-by-case basis and to coordinate the regulatory evaluation of potential impacts at state and federal levels the processing of environmental permits has taken on an added degree of complexity. As a result, the accomplishment of dredging and disposal in a timely fashion has become exceedingly difficult.

Obviously some mechanism must be evolved to address cogent impact related issues of dredging and dredged material disposal and to balance environmental impacts with the economic and recreational needs of the state's coastal communities. Equally apparent is the need to efficiently coordinate various state and federal regulatory evaluations of dredging and disposal alternatives.

Management Approach--Techniques for managing federal navigation channels and dredged material disposal areas include the use of existing federal and state authorities, CAM Goals and Policies, and programs for coordinating the management efforts of all levels of government.

Authorities--The U.S. Army Corps of Engineers is authorized by various federal Rivers and Harbors Acts to construct, repair and maintain specific navigation projects. General authority for these projects was granted in the Rivers and Harbors Act of 1899 which authorizes funds for "construction, completion, repair and preservation" of projects. The Corps' activities in these areas consist primarily of the deepening of channels but may also include the development of safe entrance channels, major access channels, and maneuvering and turning basins. Individual projects are authorized by Congress when a municipality demonstrates the need for improved navigation facilities.

Both state and federal authorities are involved in the selection process for dredged material disposal sites in Long Island Sound.

Corps of Engineers disposal permits are issued pursuant to Section 404 of the Clean Water Act. The Clean Water Act (Sec. 404b) also requires the U.S. Environmental Protection Agency to develop guidelines for the designation of disposal areas within the Corps' 404 permit program.

*Gordon, Robert B., Rhoads, Donald C. and Karl K. Turekian, 1972 "The Environmental Consequences of Dredge Spoil Disposal in Central Long Island Sound: I. The New Haven Spoil Ground and New Haven Harbor."

The Act prohibits the designation and use of any disposal site when its use would result in unacceptable adverse impacts on municipal water supplies, shellfish beds and fishery areas (including spawning and breeding areas), wildlife, or recreation areas.

Pursuant to Section 307(c) of the federal Coastal Zone Management Act, Corps of Engineers and EPA activities related to dredging and dredged spoil disposal must be consistent with the objectives of the Connecticut Coastal Area Management Program.

The state currently regulates dredging and disposal of dredged material in its coastal and tidal waters under Sections 25-10 through 25-18 of the Connecticut General Statutes (CGS) and Section 401 of the federal Clean Water Act (as amended) respectively. Under these authorities a state permit is required for the original dredging of channels or basins and state water quality certification is necessary for the disposal of dredged material from original or maintenance dredging activities (including Corps of Engineers' activities). In addition, if dredging or disposal involves a tidal wetland as defined by CGS Section 22a-29 state authorization is required under CGS Sections 22a-28 through 22a-35.

Applications for dredging and disposal under these authorities are evaluated with respect to water quality, erosion, shell and fin-fish habitat, preservation of wildlife habitat, navigational improvements, protection of uplands, flooding and the preservation of tidal wetlands.

A complete discussion of existing state authorities relevant to dredging and dredged material disposal is contained in Section VI of this document.

CAM Policies--General and specific policies have been developed to guide and coordinate the activities of state regulators and to evaluate the consistency of federal actions involving navigational dredging and disposal. They appear in Coastal Goals and Policies (Section IV of this document). The specific policies are as follows:

"Specific Policy: (1) To encourage, through the state permitting program for dredging activities, the maintenance and enhancement (i.e. minor alterations such as deepening or widening) of existing federally maintained navigation channels, basins and anchorages and to discourage the dredging of new or expanded federally maintained navigation channels, basins and anchorages, (2) to only provide state funding assistance for dredging projects which serve the general boating public."

"Specific Policy: To reduce the need for future dredging by requiring that new or expanded navigation channels, basins, and anchorages take advantage of existing water depths, circulation and siltation patterns and the best available technologies for reducing controllable sedimentation."

"Specific Policy: To initiate in cooperation with the federal government a long range planning program for the maintenance and enhancement of federally maintained navigation facilities in order to effectively and efficiently plan and provide for environmentally sound dredging and disposal of dredged materials."

"Specific Policy: To manage the nearshore and off-shore waters of the state through the maintenance, enhancement, or restoration of natural circulatory patterns, biochemical processes, basin configuration, and freshwater inputs; to insure the continued biological productivity and viability of Long Island Sound as a resource capable of supporting healthy and self-perpetuating marine, anadromous, and shellfisheries, a broad, sound-wide spectrum of safe and healthy recreational activities, and an efficient system of marine commercial transportation and navigation."

"Specific Policy: To disallow new dredging in tidal wetlands except where no feasible alternative exists and adverse impacts to coastal resources are minimal."

Long Range Dredged Material Management--Following preliminary investigations into the problem of dredged material disposal, Connecticut and New York initiated an interim disposal plan for the Long Island Sound. Presently, management efforts at all levels are being coordinated through the New England River Basins Commission's (NERBC) Dredging Management Committee. The Dredging Management Committee consists of members from the New England Division Corps of Engineers, the National Marine Fisheries Service, the U.S. Fish and Wildlife Service, EPA, the New York Department of Environmental Conservation, the Connecticut Department of Environmental Protection and NERBC. The objectives of the effort are:

1. To review, revise and obtain final approval of the Interim Disposal Plan by member agencies.
2. To assist in the development of a composite Environmental Impact Statement covering disposal activity in Long Island Sound.

3. To monitor and review the results of ongoing research on open water disposal throughout the region.
4. To identify potentially feasible land disposal alternatives for dredging material.

The tasks have been initially scheduled for completion by 1981 and are expected to provide a foundation for effective, environmentally sound management of dredged material disposal in the Long Island Sound region.

A proposal has been initiated for the establishment of an intra-agency task force within the Department of Environmental Protection. This task force, if it is created, would provide a mechanism for collecting all existing information pertaining to dredging and dredged material disposal and for evaluating the viability of specific projects and techniques. The task force could also be used to establish Department policy regarding dredging and disposal and to assist the federal government in the timely and effective completion of individual navigation projects.

Use Priorities--For federal navigation channels, shipping and recreational boating are high priorities. Structures and other recreation are low priorities. Regarding disposal sites, dredged material disposal is high priority. Uses that would alter disposal sites by disturbing sediments or preventing access are low priorities.

AREAS FOR PRESERVATION OR RESTORATION

The Connecticut General Statutes provide both broad criteria and a mechanism by which areas for preservation and restoration may be identified and designated. The Commissioner of the Department of Environmental Protection (DEP) has authority to acquire and manage areas that are in need of preservation or restoration. Specifically, the Commissioner "may acquire in the name of the state...lands (and) waters...for any purpose or activity relating to or compatible with the functions of the department of environmental protection " (CGS Section 22a-25). This provision allows the Commissioner to designate sites within the coastal area for the purpose of preserving or restoring them for their conservation, recreational, ecological, or aesthetic values.

Under this authority, the Commissioner is specifically authorized to acquire and manage property for the following purposes: to establish natural area preserves (CGS Sections 23-5a to 23-5i), to make available public open space for recreation (Sections 23-8 to 23-9), to establish state forests (Sections 23-20 to 23-22), to improve, protect, and conserve tidal wetlands (Section 26-17a), and to establish fish and game refuges (Sections 26-99 to 26-107). In general, state-owned property under the jurisdiction of DEP must be managed in a way that is compatible with the uses for which the property was acquired. For example, the legislative act establishing the Bluff Point Coastal Reserve (P.A. 75-45) states the following:

"Section 4. Said coastal reserve shall be maintained and administered by the Department of Environmental Protection and no improvement shall be undertaken which does not contribute to the preservation of the natural, scenic, historical or ecological values of the reserve...."

The Connecticut Natural Area Preserves System (CGS Sections 23-5a to 23-5i) provides a mechanism for identifying and designating areas for preservation and restoration. A preliminary inventory of the state's natural areas has been completed. Final designation of a natural area is made by the Governor after the site has been approved by the Commissioner of DEP. Areas may be designated if they contain, or have the potential to support, "plant or animal life or geologic features worthy of preservation in their natural condition " (CGS Section 23-5b). The Natural Area Preserves System also includes a process for recommending the acquisition of specific lands which are suitable for natural area preserves.

A complete discussion of the existing state authorities relevant to the implementation of a coastal management program is contained in Section VI of this document.

SECTION VIII
SPECIAL PLANNING REQUIREMENTS

NATIONAL INTEREST

Introduction

Under Sec. 306(c)(8) of the CZMA a state coastal management program must ensure that facilities and resources in the national interest are not arbitrarily excluded from a state's coastal management program. It should be viewed as a procedure whereby the state guarantees to the federal government that adequate consideration of the national interest will be given to the siting of facilities and the protection of resources in the state's coastal area through the use of non-arbitrary criteria.

Each state developing a coastal management program must determine which uses are in the national interest. Federal regulations concerning the CZMA provide guidance in addressing this issue. For example, facilities relating to national defense, energy production and transmission, recreation, transportation and regional water treatment plants may be in the national interest. Resources such as air, water, wetlands, endangered flora and fauna, floodplains, beaches, historic and cultural resources, wildlife reserves, minerals, prime agricultural lands, forests, and living marine resources may be in the national interest for a state's coastal management program. The state, while expected to follow certain criteria outlined by federal regulations, ultimately determines those uses it considers to be in the national interest.

Connecticut Coastal Area Management (CAM) sent a questionnaire on the national interest issue to numerous federal agencies during the summer of 1978. The questionnaire provided the federal agencies with the opportunity to identify facilities and resources they perceived to be in the national interest as well as the opportunity to comment on the procedural aspects of the question. Additionally, state agencies having authority or interests in Connecticut's coastal area were contacted by a letter requesting their comments on the national interest. The same procedure was used to contact industries and interest groups on the state, regional, and national levels. The state agencies, industries, and interest groups were asked to identify those coastal-dependent

facilities or resources located in or which might reasonably be sited in Connecticut that have major national significance.

Connecticut's CAM Program attempted to address the differing interpretations and opinions of the many respondents to the national interest inquiry. Conflicts concerning resources and facilities that may be in the national interest had to be identified and resolved according to CAM's ultimate interpretation of the federal requirements and the specific needs and characteristics of Connecticut's coastal area.

CONNECTICUT COASTAL AREA MANAGEMENT'S NATIONAL INTEREST DETERMINATION

Connecticut's CAM Program has specifically identified facilities and resources of national importance in Section 3(14) of the proposed amendments. These are 1) adequate protection of tidal wetlands and related estuarine resources, 2) restoration and enhancement of Connecticut's shellfish industry, 3) restoration, preservation and enhancement of the state's recreational and commercial fisheries, including anadromous species, 4) water pollution control measures and facilities consistent with the requirements of the Federal Clean Water Act, as amended, 5) air pollution control measures and facilities consistent with the requirements of the Federal Clean Air Act, as amended, 6) continual operation of existing federally funded dredged and maintained navigation channels and basins, 7) energy facilities serving statewide and interstate markets, including electric generating facilities and facilities for storage, receiving or processing petroleum products and other fuels, 8) improvements to the existing interstate rail, highway and waterborne transportation system, 9) provision of adequate state or federally owned marine-related recreational facilities, including natural areas and wildlife sanctuaries and 10) essential maintenance and enhancement of existing water dependent military, navigational, resource management and research facilities.

These various uses and resources in the national interest for Connecticut coastal area management are reviewed individually in Appendix G .

CAM'S NATIONAL INTEREST POLICY-CRITERIA FOR REASONABLENESS

The Connecticut Coastal Area Management Program's recognition of the national interest component of the CZMA can be found in the "Policies" section of its proposed amendments to the Coastal Management Act. Section 2(10) of CAM's proposed amendments to the Coastal Management Act states that it is the policy:

"10) To insure that the state and coastal area municipalities provide adequate planning for facilities and resources which are of national importance as defined in Section 3 of this act and, further, to insure that any restrictions or exclusions of such facilities or uses are reasonable. Reasonable grounds for the restriction or exclusion of a facility or use of national importance shall include a finding that such a facility or use 1) may reasonably be sited outside the coastal boundary, 2) fails to meet any applicable federal and state environmental, health and safety standard, or 3) unreasonably restricts physical or visual access to coastal waters."

CAM's policy on the national interest is designed to satisfy the federal requirements. The criteria outlined in Section 2(10) provide for reasonable state and local judgement concerning facilities and resources that may be in the national interest. In order for the state or a local government to reasonably exclude a facility or resource determined to be in the national interest, the government unit will have to demonstrate a conflict with the criteria outlined in Sec. 2(10).

IMPLEMENTATION OF THE NATIONAL INTEREST IN THE CONNECTICUT COASTAL AREA MANAGEMENT PROGRAM

The national interest component of the CZMA, as reflected in the proposed amendments to the coastal management act, will be implemented through a number of methods. At the outset it should be observed that a majority of the uses determined to be in the national interest for Connecticut are under state control and authority. Thus, the burden of considering and implementing the national interest policy will primarily fall upon the state.

Section 23 of the proposed amendments to the Coastal Management Act mandates that all major state plans affecting the coastal area be consistent with the goals, policies, and purposes of the (state) act. State agencies responsible for revising state plans must provide for consistency with the policies of the act, including the policy on the national interest. Sec. 23 also requires consideration of the national interest policy by administrators of state regulatory programs in reaching their decisions.

Some of the state's planning and regulatory programs directly impact upon the national interest question. For example, protection of tidal wetlands is regulated under the Tidal Wetlands Act (C.G.S. Sec. 27a - 28 to 22a - 35). Programs and authorities for management of Connecticut's shellfish industry and fisheries resources are presently in existence. Clean air and water, a major concern of federal legislation and in the national interest for Connecticut, are the subject of state law. The licensing of energy facilities, as well as certain transmission lines and facilities, are governed primarily by state law (see Section VIII "Regional Benefit"). Consideration of the national interest in improving transportation is provided by the State Transportation Planning Law. (For a detailed description of these authorities, see Section **VI**).

National interest consideration will also be guaranteed by the state Environmental Impact Statements (EIS) required under the Connecticut Environmental Policy Act (CEPA) of 1973, as amended 1977 (22a-1 et seq). This act requires state agencies to prepare environmental impact evaluations for any state funded or sponsored project which may have a significant environmental impact. Regulations for CEPA were drafted in 1978, including a requirement for an energy impact evaluation of state projects. Section 23 of the proposed amendments to the Coastal Management Act require that coastal goals and policies also be considered in the preparation and review of state environmental impact statements.

Local planning and zoning commissions will also have some responsibilities in the national interest process. The major instrument for implementation of the national interest by localities is the "municipal coastal site plan review" found in Sections 11 and 12 of the proposed amendments to the Coastal Management Act. This review process, basically an analysis of the impacts of proposed activities or uses on specific types of coastal resources, is designed to be implemented by local planning and zoning commissions in the normal process of evaluating certain activities when they occur within the coastal boundary. In determining whether or not potential adverse impacts of proposed activities are acceptable, the municipality must apply the goals and policies found in Sec. 2 of the proposed amendments, including policy 10 on the national interest. The municipal board or commission, when faced with a proposal claimed to be in the national interest, must review the proposal in light of the criteria for reasonableness found in Sec. 2(10).

If the municipal board or commission fails to follow this policy, adequate consideration of the national interest is still insured by state overview of the local decision. Sec. 22 of the proposed amendments gives the Commissioner of Environmental Protection the right to appear as a party to any hearing or decision involving a municipal approval, permit or license for a building, and/or use or structure affecting the area within the coastal

boundary. Additionally, the Commissioner may appeal, or appear as a party to any appeal of, a municipal decision involving a coastal site plan review or a municipal approval, permit or license for a building, use or structure affecting the area within the coastal boundary.

Finally, those localities choosing to design and implement a municipal coastal program under the proposed amendments will have to adequately consider the national interest. The municipality's Town Plan of Development and land use regulations and ordinances will have to be revised to consider the goals and policies proposed by Coastal Area Management, including the policy on the national interest.

USES OF REGIONAL BENEFIT

Closely related to the national interest requirements is the "regional benefit" provision of the CZMA. Sec. 306(e)(2) states that "prior to granting approval, the Secretary shall also find that the program provides for a method of assuring that local land and water use regulations within the coastal zone do not unreasonably restrict or exclude land and water uses of regional benefit."

The basic criteria for identifying these uses are 1) effect on more than one local unit of government and 2) direct and significant impact on coastal waters. Federal regulations allow the state to define uses of regional benefit to include facilities in which there may be a national interest in their planning and siting (15C.F.R. Sec. 923.13 (d)). Connecticut has chosen this approach and thus the uses of national importance defined in Sec. 3(14) of the proposed amendments are also determined to be uses of regional benefit. (See the section on the "national interest" for a listing of these uses.)

Assuring that local land and water use regulations within the coastal zone do not unreasonably restrict these regional benefit uses does not present any serious problem for coastal management in Connecticut. Most of the uses of regional benefit (and in the national interest) are regulated solely by the state. Municipalities only have regulatory authority over certain energy facilities. However, local prohibitions or restrictions of electric generating plants and associated facilities and gas pipelines may be overridden by the Power Facilities Evaluation Council.

The Power Facility Evaluation Council retains authority over 1) electric transmission lines of a design capacity of sixty-nine kilovolts or more, including associated equipment; 2) fuel transmission facilities, except a gas transmission line having a design capability of less than two hundred pounds per square inch gauge pressure; 3) any electric generating storage facility using any fuel, including nuclear materials, including associated equipment for furnishing electricity by electric utilities and 4) such substations, switchyards, and other facilities which may have a substantial adverse environmental effect as the PFEC may, by regulation, prescribe.

Given air quality standards and federal requirements, studies have shown that gas processing plants and oil refineries would not meet Connecticut air pollution standards. For example, the state's most recent draft of the federally required air implementation plan notes that Connecticut exceeds photochemical oxidant standards by at least a factor of two statewide. The possible exclusion or restriction of petroleum storage facilities from the coastal area

by municipalities would be reasonable since those facilities do not require coastal siting, and their siting outside of the flood hazard zone and away from coastal waters and resources is desirable.

ENERGY FACILITIES

Introduction

Historically, coastal sites have been in great demand for the location of energy facilities. The availability of water for cooling, waste disposal, and fuel transportation as well as the proximity of major population centers for distribution have all contributed to this high demand. Recently developed technologies such as nuclear power and Outer Continental Shelf oil and gas extraction demand coastal locations for economic and practical reasons. In the future, the development of energy sources such as ocean thermal energy conversion, wave energy, tidal energy, and salinity gradients will maintain the importance of the coastal area as a source of energy.

A large number of major energy facilities are located in Connecticut's coastal area including three nuclear power plants (two are in operation), several oil fueled power plants, and facilities for the receiving, storage, and distribution of oil and natural gas. Due to the physical nature of the coast and the generally high level of development, few large open tracts of land remain that would be suitable for large scale industrial development such as oil refineries and gas processing plants. It is likely that the shortage of adequate suitable land will also limit the siting of new power plants in the coastal area. Environmental concerns and supply and demand considerations will further limit the siting of facilities that may have substantial negative impacts on coastal resources. This is particularly true with respect to the demand for energy. Total end use net energy demand in Connecticut is expected to increase by only 0.2% per year until 1997 including a 3.3% annual growth rate in electricity demand.*

The purpose of this part is to describe an energy facility planning process for Connecticut's coastal area. It includes an identification of energy facilities which are likely to locate in, or which may significantly affect, the coastal area. It also includes a description of state and federal authorities that have planning responsibilities and jurisdiction over facility siting, CAM policies regarding facility siting and the national interest, and an identification of how affected public and private parties may be involved in the planning process. References to other sections of this document and to previous CAM publications are included where appropriate in order to prevent unnecessary duplication of material.

* Connecticut Energy Advisory Board, Connecticut's Energy Outlook: 1978-1997, annual report to the Governor and General Assembly, 1978.

Power Plants and Related Facilities

According to the Connecticut Energy Advisory Board's 1978 report, electricity consumption in Connecticut is expected to show an annual growth rate of 3.3% over the next 20 years. This translates into a 29% total increase or 1.4% annual growth rate in electric power plant fuel consumption. Barring unexpected improvements in energy conservation or other factors influencing the demand for electricity, there will be a need for increased generating capacity in the future.

At the present time nuclear power provides 52% of the state's electricity. This is expected to increase to 56% by the end of the 20 year projection period (1978-1997), with the addition of Connecticut's fourth nuclear power plant, Millstone III. It is expected that nuclear power will provide most of the electricity needed to satisfy increased demand in the foreseeable future. In fact, Connecticut presently exports electricity to other states in the region, and will continue to do so. This excess supply situation has been an important factor in the delayed completion of Millstone III. Originally scheduled to be completed in the early 1980's, the nuclear power plant is now expected to come on line around 1986. Therefore, no other generating plants are being planned. However, the unpredictable oil supply situation, which has led to the formulation of a national policy to reduce dependence on petroleum, could create a need for more facilities using various energy sources.

While Connecticut has made a firm commitment to nuclear power in the last decade, a heavy dependence on petroleum has also been maintained. Approximately 46% of the state's electricity is generated by oil fueled plants, while the use of coal for electric generation has decreased from 82% in 1965 to 0.1% in 1970, due to air quality concerns as well as lower residual oil prices in the 1960's and the growing commitment to nuclear power. The state's other significant source of energy for electricity, hydro power, accounted for 1.6% of all generating capacity in 1976.

CAM supports the statutory goal of balancing the "need for adequate and reliable" electric power generation at the lowest reasonable cost to consumers "with the need to protect the environment and ecology of the state and to minimize damage to scenic, historic, and recreational values..." (CGS Section 16-50g). Impacts that should be considered in the siting of power plants include preemption of natural areas, impacts on existing land use, alteration of land runoff patterns, effects on water quality from thermal and chemical discharge, esthetics, and air quality impacts including the emission of sulfur dioxide, nitrogen oxide and particulates, fogging and noise. In addition, radiation emission is an environmental impact associated with nuclear power plants. While none of these impacts are confined to power plants located in the coastal area, the vulnerability and scarcity of certain valuable coastal resources, as well as the heavy population concentration along the Connecticut coast, require a close examination of environmental impacts during the power plant siting process.

Because of air quality problems and the lack of adequate transportation facilities, it is unlikely that coal-fueled power plants will be built in the coastal area. According to the State Implementation Plan for Air Quality, the entire state is classified as non-attainment (exceeds federal standards) for particulates, a major pollutant emitted by coal plants. Sulfur oxides and nitrogen oxides present problems in certain areas of the state. In addition, the cost of converting oil-fueled plants to coal would appear to be prohibitive especially since many of the existing plants were only converted from coal to oil in the last decade. New technologies, however, may increase the attractiveness of coal use in the future. The conversion of coal to oil and natural gas, fluidized bed combustion, solvent refining, and pollution control devices such as scrubbers and electrostatic precipitators may be utilized.

While it is possible (but not probable) that nuclear and oil-fueled power plants will be needed in Connecticut to satisfy state and regional electricity demands, these facilities are not necessarily dependent on location in, or proximity to, marine or tidal waters. Because of their potential for having significant adverse impacts on coastal resources, inland locations are preferred. According to Sections 2 and 3 of the proposed amendments to the Connecticut Coastal Management Act (see Appendix C), nuclear and oil-fueled power plants, as facilities of national importance, may be excluded from the coastal area if it is demonstrated that they may reasonably be sited outside the coastal area, fail to meet all applicable environmental standards, or unreasonably restrict access to coastal waters. In addition, existing petroleum supplies and the recently raised economic, environmental, and safety concerns associated with nuclear power may affect the demand for these facilities.

It is clear that "alternative" sources of energy will become more important in the future. There are presently 18 hydro power facilities located at dams throughout the state and the U.S. Army Corps of Engineers has identified several existing dams that are adaptable to hydro-electric generating equipment. A 3,000 watt wind turbine in Winsted now provides electricity to the first Connecticut public building powered by the wind. Bridgeport and Waterford, both coastal municipalities, have been cited as areas that have average wind speeds sufficiently high to support a typical wind energy conversion system. Other potential future energy sources for electric generation include co-generation, biomass conversion, and photovoltaics.

Additional electrical transmission lines, switchyards, and substations may be needed in the future to facilitate the efficient distribution of electricity to Connecticut and other New England states. While economic and environmental considerations should be considered in the siting of these facilities, their operation should not generally result in significant and wide-ranging impacts.

The siting of electric generating facilities, electrical transmission lines (except those having a design capacity of less than 69 kilowatts), switchyards, and substations is regulated by the Power

Facilities Evaluation Council (PFEC) pursuant to the Public Utilities Environmental Standards Act (CGS Sections 16-50g to 16-50y). A "certificate of environmental compatibility and public need" must be obtained from the PFEC in order to construct any of the above mentioned facilities. These certificates preempt all other state and municipal permit authority. PFEC authorities are discussed in detail below.

Fuel Storage, Handling and Receiving Facilities

These facilities include all land-based petroleum storage, handling, and receiving facilities that are not discussed under OCS facilities (see below). Generally, they are located in the state's major harbors in order to facilitate the handling and distribution of fuel shipped by barges and small and medium sized tankers.

Because of the frequent occurrence of oil spills at these facilities, there is a CAM policy to discourage the siting of tank farms and other fuel storage facilities within the coastal boundary which can reasonably be located inland. Any new storage tanks that must be located within the coastal boundary should be sited near existing tanks or in urban industrial areas and must be adequately protected against floods and spills in accordance with applicable standards (see Part A(6)(a) of Section IV of this document).

Receiving and handling facilities are, for the most part, coastal dependent and should be sited and constructed with the goal of minimizing the risk of oil spills which may damage valuable coastal resources.

All fuel storage, handling and receiving facilities are licensed for operation by the Department of Environmental Protection under the Oil and Chemical Handling Law (CGS Sections 25-54bb to 25-54kk). The siting of these facilities is under the jurisdiction of local zoning authorities subject to the requirements of state regulatory programs (e.g. tidal wetlands, structures, and dredging) and to coastal goals and policies.

Outer Continental Shelf Oil and Gas Exploration, Development and Production Facilities

The National Energy Plan recognizes that oil and gas under federal ownership on the Outer Continental Shelf are important national assets and should be "developed in an orderly manner consistent with national energy and environmental policies." As part of New England, Connecticut can expect to experience some portion of the impacts stimulated by the activity on the Georges Bank; activity that will modify both the offshore and onshore environments. However, the onshore impacts are of less immediate concern to Connecticut than to other New England states for several reasons. In general, five factors will affect the siting of major OCS-related

facilities in Connecticut's coastal area:

- (1) The large distance separating Connecticut from the major areas of OCS activity and the availability of suitable alternative sites closer to major lease areas;
- (2) The lack of suitable vacant tracts of land;
- (3) Insufficient deepwater access to the coast;
- (4) Transshipment problems posed by the narrow entrance channels to Long Island Sound and the existing large volumes of commercial and recreational boat traffic;
- (5) Air pollution and other environmental quality concerns.

These factors indicate that, even if significant finds of offshore oil and gas are made in the North Atlantic, it is highly unlikely that any major OCS-related facilities will be located in Connecticut. However, the state may experience some indirect economic impacts of OCS development because of increased production in industries, such as tool and machinery manufacturing, that support OCS development activities (see CAM Planning Report No. 22).

OCS-related facilities include oil refineries, gas processing plants, deepwater ports, pipelines and shore terminals, and support facilities (platform fabrication yards, pipecoating yards, etc.). Potential environmental, social and economic impacts resulting from OCS development have been analyzed in CAM Planning Report No. 22 (1976) as well as in the Report of the Governor's Fact-Finding Task Force on Oil Refineries (1975). The important considerations regarding each type of OCS-related facility are summarized below.

Oil Refineries -- An oil refinery is used to convert crude oil (a raw material) into a variety of useable products such as gasoline, home heating oil, industrial oil and asphalt. The three major steps in the refining process are separation, transformation of molecules, and the removal of impurities. A refinery located in New England would be built with a design capacity of anywhere from 250 to 450 thousand barrels per day, thereby constituting a heavy industrial use.

The need for an oil refinery in New England will depend on significant finds of offshore oil in the North Atlantic and Mid-Atlantic regions. Considering recent exploration results, there is a low probability of finding a supply of crude oil substantial enough to justify locating a refinery in southern New England. Even if offshore wells do produce significant quantities of oil, energy company officials have indicated a preference for expanding existing facilities as opposed to finding new locations.

Connecticut's generally poor air quality makes it highly unlikely that a refinery will be sited anywhere in the state. According to the Report of the Governor's Fact-Finding Task Force on Oil Refineries (1975), a refinery that emits 10,000 tons per year of **hydrocarbons** (a conservative estimate) will cause violations

of the ambient air quality standards for hydrocarbons as well as lead to an increase in oxidant concentrations in much of the state. Strict application of existing hydrocarbon standards would likely prohibit the siting of a refinery in Connecticut. In addition, a refinery would cause a significant increase in existing concentrations of sulfur oxides and particulates.

Other significant effects of an oil refinery include impacts on water supply, water quality (including an increased risk of oil spills in vulnerable estuarine areas), critical ecological, historic, and scenic areas, and existing land use.

There is no centralized permit authority for this facility. However, numerous regulatory mechanisms apply should a facility be proposed. The Department of Environmental Protection (DEP) is the principal agency responsible for issuing air and water pollution permits, structures and dredging permits, and licenses for the storage, handling and transportation of petroleum products. A complete discussion of these authorities is presented in Section VI of this document.

Refinery siting is indirectly regulated by the Public Utility Environmental Standards Act (CGS Sections 16-50g to 16-50z) which requires that a Certificate of Environmental Compatibility and Public Need be obtained from the Power Facilities Evaluation Council for the construction of oil pipelines. Federal agencies that may be involved in the refinery siting process include the U.S. Army Corps of Engineers (dredging and filling), Coast Guard (transportation of hazardous materials), and the Environmental Protection Agency (water pollution standards).

CAM policies exclude refineries from the coastal area unless it can be demonstrated that such facilities:

- (1) are water dependent;
- (2) cannot reasonably be located outside of the coastal boundary;
- (3) meet all applicable environmental standards;
- (4) do not impose significant adverse impacts on resource uses in the national interest.

The complete policy appears in Part A(7)(d) of Section IV of this document.

Gas Processing Plants -- United States Geological Survey estimates indicate that commercially profitable quantities of natural gas may be found in the Georges Bank area. The gas must be purified at a processing plant before entering commercial pipelines. A gas plant is a large industrial facility (utilizing 20 to 75 acres of land) and

would have a significant impact on air quality, including large emissions of nitrogen oxides. Impacts on water quality and supply would also be significant as anywhere from 200,000 to 750,000 gallons of water per day would be used for cooling, depending on the process employed. Other environmental impacts include the production of hazardous wastes, esthetic considerations and noise.

No such plant has ever been considered for location in Connecticut and it is unlikely that one will locate here in the future. The air quality problems discussed in the preceding section on oil refineries, the need for a large land area, and the greater distance separating offshore sources of natural gas from the Connecticut coast relative to suitable alternative sites in the region are the primary reasons for this.

The siting of a gas processing plant would be subject to various regulatory programs under the jurisdiction of DEP including air and water pollution control and regulation of structures and dredging. These authorities are described in Section VI of this document. The CAM policy on oil refineries summarized above also applies to gas processing plants.

Deepwater Ports -- Deepwater ports used to transfer bulk products such as oil may serve important economic and environmental interests. They would allow supertankers (VLCC's) to unload large quantities of oil at a safe distance from land in order to minimize the risk of damage to the coast from oil spills. However, deepwater ports will probably not be located in Connecticut's coastal waters for several reasons.

While the use of supertankers may necessitate fewer tanker trips than if smaller ships were used, thereby reducing the probability of chronic low volume spill levels, severe navigational difficulties would be posed. The relatively narrow natural channels at the Race and between Block Island and Rhode Island are likely to be dangerous for supertankers. In addition, the large maneuvering areas required around single point moorings would make it difficult to find suitable sites for deepwater ports in Long Island Sound. (This issue is discussed in the Report of the Governor's Fact Finding Task Force on Oil Refineries.)

An offshore facility will also pose a danger to navigation due to normally heavy commercial and recreational boat traffic in most areas of the Sound. Nearly 100,000 recreational vessels are registered in Connecticut and the state's waters are also heavily utilized for commercial shipping.

While none of these problems are presented by deepwater ports located a sufficient distance from the shore, this would include waters well beyond state jurisdiction.

The siting of deepwater ports in Connecticut's waters would be subject to various regulatory programs under DEP's jurisdiction including the Coastal Structures Law (CGS Sections 25-7b to 25-7f), Coastal Dredging Law (CGS Sections 25-10 to 25-18), and Water Pollution Control (CGS Sections 25-54a to 25-54g, 25-26, 25-27, and 25-54aa to 25-54hh). These authorities are discussed in detail in Section VI of this document.

Pipelines and Shore Terminals -- Significant oil or gas finds on the outer continental shelf may necessitate the construction of pipelines to connect the mainland with wells and deepwater ports. A pipeline shore terminal would also be needed to house pumping machinery that moves oil or gas through the pipeline and to provide connections to a refinery or processing plant.

Several factors limit the potential for locating an OCS pipeline and shore terminal in Connecticut. First, large quantities of oil and/or gas would have to be found in the North Atlantic in order to provide economic justification for the construction of a pipeline. Second, for economic reasons, pipelines are generally directed to the land area closest to the drilling source. Finally, as noted previously, it is unlikely that an oil refinery or gas processing plant will be located in the state. For these reasons, Massachusetts and Rhode Island are the most likely locations for a pipeline landfall.

In the unlikely event that an OCS pipeline is proposed for Connecticut, certain impacts would have to be considered. On the positive side, a pipeline and shore terminal could provide economic benefits while posing less danger to the environment than super-tanker transport (see discussion of deepwater ports above). Negative environmental impacts include spills and damage to barrier reefs and wetlands resulting from dredge and fill operations required to bury the pipeline.

A pipeline shore terminal would probably have a significant environmental impact, but it would not be nearly as severe as impacts resulting from a refinery or gas processing plant. An oil spill is possible if the pumping machinery is damaged but the risk of a catastrophic spill caused directly by the terminal is minimal. Air pollution impacts can be mitigated by the use of proper emission controls.

A number of federal agencies are involved in overseeing the siting, construction, and operation of interstate pipelines. These agencies deal with safety and environmental considerations, economic requirements and the proper development of natural resources in general. Included are the Department of the Interior, Interstate Commerce Commission (for oil), Federal Energy Regulatory Commission (for gas), Department of Transportation, and the Army Corps of Engineers. Coordination with the states is provided informally

through Department of the Interior field personnel and more formally through CZMA (Section 307(c)), 1978 Outer Continental Shelf Lands Act Amendments (P.L. 95-372), Oil and Gas and Sulfur Operations in the Outer Continental Shelf (30 CFR 250), and OCS Oil and Gas Information Program (30 CFR 252). The siting of pipelines below the mean high water mark is also regulated under the Coastal Structures Law (CGS Sections 25-7b to 25-7f).

A pipeline shore terminal would be subjected to various state and local land use authorities that are discussed elsewhere in this document.

OCS Support Facilities -- Facilities that may be needed if significant OCS finds are made in the North Atlantic include oil and gas platforms, platform fabrication yards, storage depots, crew and supply bases, and tank farms. The potential demand for these facilities will depend on several factors including where recoverable amounts of oil and gas are found, the quantity of production estimated from exploratory drilling results, the composition of the find (i.e. all oil, all gas, or a mixture), and the rate of production. As in the case of the other OCS-related facilities discussed above, Connecticut's distance from the drilling locations will generally restrict the siting of support facilities in the state. However, if the demand were to arise for such facilities the economic benefits could be significant.

Although some OCS support facilities are not coastal dependent, coastal sites are often preferred for economic reasons. Proposed facilities should be examined on a case-by-case basis utilizing all relevant federal, state, and municipal authorities. Such an examination will include an assessment of the impact on coastal resources using coastal goals and policies (Section IV of this document) and should provide an analysis of alternative sites within and outside the coastal area.

LNG Facilities

A typical liquefied natural gas (LNG) import facility consists of a marine unloading pier, a cryogenic pipeline leading from the pier to storage tanks, storage tanks, vaporizers, and compressors and pipeline facilities to transport gas. Such a facility would be used to handle the importation of foreign gas supplies.

The federal Department of Energy recently denied a proposal to import LNG to the northeastern United States because of the lack of demonstrated regional need for the imports. Given this decision and the fact that large LNG terminals are presently located in Massachusetts and the New York-New Jersey area, it is unlikely that one will be proposed for Connecticut in the near future.

Since LNG facilities are coastal dependent, any site evaluation would have to carefully examine impacts on coastal resources including

the large land area needed, increased tanker traffic, the effect on shipping, increased air and water pollution due to LNG shipping and processing, and socioeconomic impacts. Another major concern associated with LNG facilities is the risk to public health and safety should an LNG spill occur. Security and safety measures at the Massachusetts facility have been questioned in recent years.

LNG transshipment problems in Connecticut's coastal waters will be difficult to overcome. As in the case of supertanker transport (see discussion of deepwater ports), LNG transport will be limited by the narrow channels at the entrance to Long Island Sound, the lack of large deepwater harbors, and the large volume of recreational and commercial vessels presently using the Sound. The large land area required by LNG facilities would also limit the potential for siting in Connecticut.

The siting of LNG facilities is subject to various regulatory programs under the jurisdiction of DEP including air and water pollution control and structures and dredging regulations (see Section VI of this document).

State Authorities Involved in Energy Facility Planning and Siting

Connecticut has instituted a coordinated and comprehensive system for energy facility planning and for regulating the location and construction of power plants, distribution facilities, and transmission lines. The Power Facilities Evaluation Council (PFEC) is the chief agency responsible for the siting of major energy facilities. Facilities which are not under the PFEC's jurisdiction are subject to State permit authority centralized in the Department of Environmental Protection, or to municipal zoning authority. Coastal goals and policies (Section IV of this document) have been developed to guide and coordinate the planning and decision-making processes at all levels of government. In addition, the Energy Division of the State Office of Policy and Management and the Energy Advisory Board have responsibility for developing energy supply and demand projections and for recommending broad energy policy and regulatory changes to the General Assembly and the Governor.

Planning -- Many state agencies are currently involved in decision-making that affects energy policy, including the execution of programs aimed at reducing energy consumption through conservation and increased efficiency. Agencies having energy planning responsibilities include the Energy Division of the Office of Policy and Management, Connecticut Resources Recovery Authority, Public Utilities Control Authority, Power Facilities Evaluation Council, Department of Administrative Services, Department of Transportation, and Department of Environmental Protection.

The Energy Division of the Office of Policy and Management is the central energy office for the state. Policy planning and program operations that the Energy Division is charged with include the following:

- (1) Analysis of all aspects of energy production and supply, transportation, consumption, and conservation.
- (2) Development of recommended energy policies and programs for the state which are designed to balance economic, environmental, and social considerations.
- (3) Execution of federal and regional programs involving energy conservation, renewable energy resource development, and energy allocation, including implementation of the Coastal Energy Impact Program.
- (4) Coordination of state energy activities.

The Energy Division also provides staff support to the Connecticut Energy Advisory Board. The board consists of representatives of various state agencies as well as members of the general public and is responsible for submitting an annual report to the Governor and General Assembly. The report must contain both short-range and long-range forecasts of energy supply and demand for the state as well as recommendations for correcting energy imbalances. In the event of projected shortages in energy supply, these recommendations must include the following (CGS Section 16a-17):

"...measures to develop new or expanded sources of energy, including any recommendations to authorize the establishment of oil refineries, deepwater ports, nuclear power facilities, off-shore drilling facilities, or other similar major capital facilities. The board shall identify any beneficial or adverse social, economic, or environmental impact of such energy projections and recommendations."

Informal coordination between CAM and the Energy Advisory Board is maintained by the three state agencies that are represented on both the Coastal Area Management Advisory Board and the Energy Advisory Board - the Power Facilities Evaluation Council, the Department of Environmental Protection and the Department of Economic Development. The Office of Policy and Management is also represented on the CAM Advisory Board.

Another energy planning mechanism is contained in Section 16-50r of the General Statutes which requires all electric generating companies to furnish an annual report to the Power Facilities Evaluation Council containing long term forecasts of loads and resources. In addition to supply and demand forecasts, these reports must include lists of existing and planned energy facilities.

The CAM Program provides guidelines for facility siting in Connecticut's coastal area. Under CAM, virtually all uses and resources in the coastal area will be managed. Coastal goals and policies have been developed for energy facilities as well as for land and water resources, environmental quality, research, inter-governmental coordination, and public participation. These goals and policies will serve as a guide to energy facility planning and siting by all levels of government in the coastal area (Section IV of this document).

Siting -- The Power Facilities Evaluation Council (PFEC), established pursuant to the Public Utility Environmental Standards Act (CGS Sections 16-50g to 16-50z), consists of one representative each from the Department of Environmental Protection, Public Utilities Control Authority, House of Representatives, and Senate, in addition to five members of the general public. The PFEC has jurisdiction over the siting and modification of the following energy facilities (Section 16-50i):

- (1) Electric transmission lines of a design capacity of 69 kilovolts or more, including associated equipment;
- (2) Fuel transmission facilities, except gas pipelines having a design capacity of less than 200 pounds per square inch gauge pressure (interstate gas pipelines are regulated by the Federal Energy Regulatory Commission);
- (3) Any electric generating or storage facility using any fuel, including nuclear materials, including associated equipment for furnishing electricity by electric utilities;
- (4) Such substations, switchyards, and other facilities which may have an adverse environmental effect.

No construction or modification of the above mentioned facilities may be undertaken without a "certificate of environmental compatibility and public need" (herein referred to as "certificate") issued by the PFEC. Any proposed facility must "be built, maintained and operated in conformity with such certificate and any terms, limitations or conditions contained therein." The requirement for obtaining a certificate provides a mechanism for regulating the siting of energy facilities.

The PFEC must adhere to statutory criteria in deciding on an application for a certificate. The decision must be based on a determination of the following factors (Section 16-50p):

- (1) The public need for the facility and the basis for the need;

- (2) The nature of the probable environmental impact including an identification of every significant adverse effect on, or conflict with State policies concerning the natural environment, ecological balance, public health and safety, scenic, historic, and recreational values, forests and parks, air and water purity, and fish and wildlife;
- (3) Why the adverse effects or conflicts referred to above are not sufficient reason to deny the application;
- (4) In the case of an electric transmission line, that the facility serves the interests of electric economy and reliability and that the overhead portions are consistent with all applicable state and federal guidelines;
- (5) In the case of an electric or fuel transmission line, that the location of the line will not pose an undue hazard to persons or property.

Section 16-50p clearly requires a balancing of the need for the facility with the environmental impact of the facility. In addition, violation of any state environmental policy or standard, including coastal management policies, is sufficient reason to deny a certificate unless the PFEC presents an explicit finding that the public need for the facility outweighs violations of such standards. This statement is substantiated by Section 16-50t which allows the PFEC to adopt standards for power facilities in addition to, but not inconsistent with, other federal and state environmental standards. Prior to any hearings on applications, the PFEC is specifically required to consult with the Department of Environmental Protection, Department of Health Services, Council on Environmental Quality, Division of Public Utility Control within the Department of Business Regulation, Office of Policy and Management, Department of Economic Development, and Department of Transportation. Section 16-50l which describes the required content of an application for a certificate provides additional input into the assessment of public need and environmental impact of energy facilities.

The Public Utility Environmental Standards Act also provides for the incorporation of all relevant public and private interests into the facility siting process. The composition of the PFEC (described above), strict requirements for public hearings, and the inclusion of various interest groups and individuals as potential parties to certification proceedings all serve to provide input into the decision-making process. In addition, municipal zoning commissions and inland wetlands agencies may regulate and restrict the proposed location of a facility although a municipal decision may be revoked by a vote of six members of the PFEC.

The mechanisms used to involve all relevant public and private groups are consistent with the efforts of CAM to involve all affected local, regional, state, and federal agencies as well as interest groups and the general public in all phases of coastal management.

CAM's past efforts at involving the public in coastal management as well as plans for future coordination are described in Section IX of this document.

The National Interest in Energy Facilities

CZMA requires a state's energy facility siting process to include "a discussion of the means for continued consideration of the national interest in the planning for and siting of energy facilities necessary to meet more than local requirements." The intent of this requirement is to assure that a state or municipality does not arbitrarily exclude facilities from the coastal area that may be necessary to meet national or regional energy requirements. However, the national interest in energy facility siting must be balanced against other uses of the coastal area that are also of greater than local importance.

CAM has identified 10 generic categories of facilities, uses, and resources that are of national and regional importance (see page 159 of this document). This list encompasses the protection of certain natural resources, measures to control air and water pollution, and the provision of certain facilities that are chiefly of economic and social benefit, including "energy facilities serving statewide and interstate markets, including electric generating facilities and facilities for storage, receiving or processing petroleum products and other fuels." As indicated earlier, most of these facilities are either directly regulated by the state or federal government or are subject to various state regulatory programs.

Connecticut's approach to coastal management provides for the management of virtually all uses and resources in the coastal area. No energy facilities are generically excluded from the coastal area, although as noted earlier in this section, environmental concerns and supply and demand considerations limit the probability of certain facilities being located there. Energy facility siting, through the PFEC and other agencies, will proceed on a case-by-case basis, while incorporating all relevant plans, policies and standards. The CAM policy on planning for facilities and resources which are of national importance (see Section 2(10) of Proposed Amendments to the Coastal Management Act, Appendix C) provides that reasonable grounds for the restriction or exclusion of a facility of national importance in the coastal area must include a finding that such a facility:

- (1) may reasonably be sited outside that coastal boundary;

- (2) fails to meet all applicable federal and state environmental health and safety standards; or
- (3) unreasonably restricts physical or visual access to coastal waters.

CAM's approach to the national interest requirement of CZMA is discussed in detail in Planning Report No. 7 (1976) and on pages 158-164 of this document.

SHOREFRONT ACCESS AND PROTECTION PLANNING

Three major factors influence the planning process for enhancing shorefront access and protection in Connecticut: (1) the natural physiographic limit in the amount of suitable coastal resource, (2) the extensive development of the immediate shorefront area, and (3) the high cost of acquisition and development coupled with a real lack of available acquisition and development opportunities. These factors are largely a result of the physical (or geological) characteristics of the shorefront and the pattern of existing coastal development.

The coast of Connecticut is, for the most part, highly developed, and the development trend is expected to continue. Studies conducted under contract to the Connecticut Coastal Area Management Program show that even in some of the least developed sections of the coast, development within 1000 feet of the shore increased by 50% over the decade from 1965 - 1975. Historically, demand from competing land uses for the desirable shorefront property has resulted in the private development and ownership of much of the coast. Very little suitable land remains available for additional intensive public recreational use that is not already being used to capacity or that is not being preserved for its important natural values. For example, more than 50% of the remaining open space shore frontage in Connecticut's coastal area is tidal wetland.

The greatest intensity of development in the coastal area occurs in the western part of the state. Industry and other urban uses have concentrated along the western shorefront in New Haven, Bridgeport, Norwalk and Stamford. The surrounding towns are characterized by dense residential development due in part to their proximity to New York City and their general location along the major northeastern transportation corridors connecting Boston and Washington, D.C. The physical shorefront features along this section of the coast are predominantly rocky shorefront, artificial fill and bulkheading and a few beaches. Aside from islands, particularly in the Norwalk group, beaches in this area consist of highly developed, modified barrier beaches, small "pocket" beaches and narrow land contact beaches. Several of the larger beaches are in public ownership (either state or municipal) and are used for recreational purposes. Private residential development crowding and dissecting the larger beaches, poor water quality caused by intense industrial, commercial and residential use of the shorefront, and the limited amount of available resource suited to the most demanded forms of coastal recreation are the major limitations to providing additional public recreational access.

The coastal area east of New Haven is less intensely developed, but the same general patterns of land use evident in the western end of the state are repeated, particularly in the immediate shorefront area. Though several of these towns are decidedly rural in overall character, land use densities increase as one moves toward the shore. Sandy beaches are more prevalent in the central and eastern

portions of the state as are undeveloped tidal wetlands. Rocky shore-front accounts for most of the remaining physical resource (see Section II). The historic patterns of development and private ownership of the immediate shorefront present many of the same constraints to increasing public access as occur in the western part of the state.

Planning Report #25, published by the Coastal Area Management Program in March, 1978, discusses in detail the recreational demand, opportunities and limitations in Connecticut's coastal area. Recreational use of the coast takes many forms and depends on the availability of different resources and facilities. Sandy beaches are sought out for swimming; boating requires some type of shore based facility; fishing can be done from the beach, rocks, jetties and piers; and hunting and wildlife observation depend on the existence of natural habitat. Given the pressure from competing land uses and the limited amount of undeveloped land in the coastal area, satisfying the public demand for these and other recreational activities requires that access to all publicly owned coastal land be ensured. The Coastal Area Management Program's proposed amendments to the Coastal Management Act contain a number of policies on improving access to the shorefront (see Appendix C).

Publicly owned coastal areas include those portions of the shore held in fee ownership by the state and also that portion of the shore between mean high and mean low tide lines. This latter area is held in trust by the state under *jus publicum* or public trust doctrine. Of these areas, the coastal resource in greatest demand and, from a geological perspective, in shortest supply is sandy beach.

Beach Recreation

For the purposes of CAM's shorefront planning element, the definition of "beach" is the same as that which appears in the proposed amendments to the Coastal Management Act and in the Goals and Policies section of this document. "Beach" is defined as gently sloping deposits of loosely consolidated sedimentary material (sand and/or gravel on cobbles) fronting on coastal waters and extending landward from mean low water to the location where a distinct change in the physical composition or physiographic form occurs.

Along the Connecticut shoreline, sandy beaches are neither abundant nor evenly distributed. Of the 458 miles of total coastal (Sound and riverine) frontage, only 84.5 (18%) is sandy beach. This beach varies greatly in length, width and sand quality. Analysis of the Coastal Area Management Program's coastal resource maps and aerial photographs reveals that as much as one third of the state's beaches are less than 1500 feet in overall length. Many of the beaches are narrow and the sand tends to be coarse. Because of these factors, a sizeable number of Connecticut's beaches, both public and private, afford only limited recreation opportunities in terms of capacity.

Fifty four miles (64% of the sandy beach) are privately owned. Generally, private ownership of the beach is characterized by small house lots fronting on small (100-200 feet+) stretches of beach. This pattern of individual ownership dividing the beach into short sections, makes it difficult to acquire sufficient frontage for recreational use or to acquire sufficient area adjacent to this beach for parking, rest rooms and other necessary support facilities.

Of the remaining 36% (30.5 miles) the state owns seven miles. Sherwood Island, Hammonasset and Rocky Neck State Parks (totaling 4.5 miles) are managed by the state as recreational beach areas. Bluff Point, Harkness Memorial, and Silver Sands State Parks are state owned preserve or undeveloped beach areas and account for the remaining 2.5 miles of state fee-owned beach. As discussed in Planning Report 25 and mentioned in the following paragraphs of this discussion, development or expansion of a number of these areas is recommended for increasing user capacity and public access.

Municipalities own the remaining 28% (23.5 miles) of sandy beach. Of this municipal beach frontage, approximately 75% (17.3 miles) is accessible to the general public. The municipal beaches range in size from short stretches of sand with very limited parking and user capacity to highly developed, good quality beach areas offering a full range of support facilities. Appendix D (Designated Public Recreational Beaches) of Planning Report 25 contains a listing of all the publicly owned recreational beaches in the state, and gives the location, frontage and area, restrictions, and capacities of each. While approximately 25% (4.8 miles) of municipally owned beach frontage has restricted access, it is unlikely that the removal of municipally imposed residency requirements in areas of restricted access will provide new use opportunities since municipal facilities are generally used to capacity.

As Planning Report 25 concludes, given the lack of available beach resource in Connecticut, improvement of access to beach areas may best occur in two major ways: (1) the improvement of access to existing designated recreational beaches, particularly state-owned beaches and (2) the development of new or the reutilization of former or currently underutilized beach areas. Specific recommendations, discussed in Planning Report 25, include the following: (1) develop Silver Sands/Charles Island State Park complex by taking all necessary steps to curb existing sources of water pollution and by resolution of ownership conflicts, (2) determine the feasibility of reusing current state owned, non-recreational coastal lands for recreation, (3) give further study to the potential use of a number of the Norwalk Islands for public recreation, (4) increase the capacity of the developed state recreational beaches by providing additional parking at Sherwood Island and Rocky Neck, improving the interior access routes to Hammonasset, and possibly widening the beach by artificial nourishment at Rocky Neck.

Boating

Boating is another major recreational use of the coastal area. There are approximately 70,000 power boats registered in Connecticut and an unknown but sizeable number of sailboats (estimated in excess of 30,000). A 1976 survey of marinas in Connecticut conducted by the **state** Department of Commerce under contract to the Coastal Area Management Program identified 164 commercial marinas, 8 public marinas and 63 private yacht clubs. In addition, there are 13 state boat launching ramps providing access to the Sound, and 10 ramps providing access to the lower Connecticut River. A listing of the marinas, clubs and boat launching facilities is provided in Appendix E (State Boat Launching Ramps; Marinas) of Planning Report 25. Aside from the approximately 5000 car capacity of the public boat launching areas, available slips and berths total roughly 25,000. An unsurveyed but significant number of individual harbor moorings provide additional boating facilities. It is evident from the data presented in Planning Report 25 that a large share of the boating facilities are supplied by the private sector. Within the economic constraints of the user, these facilities are largely accessible to the public. Planning Report 25 identifies a need to provide relatively inexpensive public boating access and recommends the development of additional state boat launching sites throughout the coastal area to meet that need. In addition, the Coastal Area Management Program recognizes the significant role of the private sector in providing boating access to the Sound and has developed policies which encourage the development of commercial boating facilities in suitable locations (see Section IV, Goals and Policies).

Other Coastal Recreation

Other forms of coastal recreation are more difficult to quantify. Interest in fishing has doubled since the mid-1960's according to SCORP estimates; the total number of fishermen in Connecticut is estimated at 450,000 (15% of the population). The state owns significant tidal wetland acreage and other similar areas preserved and valued for their natural features. Areas such as Barn Island in Stonington, C.E. Wheeler Wildlife Area in Milford and Great Harbor in Guilford are primarily managed for fish and wildlife based recreation. Wildlife observation, hiking and camping are a few of the other recreational activities popular in the coastal area and provided at state owned areas such as Bluff Point, Rocky Neck, and Hammonasset State Parks. Planning Report No. 25 recommends that a coastal recreation user study be undertaken to specifically identify and quantify recreational demand in this coastal area. This coastal user demand survey should occur in conjunction with a similar statewide study, and both demand and supply data be gathered and regularly updated to ensure that "need" determinations for both coastal and non-coastal activities are appropriately made and prioritized on a statewide basis.

Shorefront Access And Protection Planning

The Connecticut Coastal Area Management Program will utilize the existing and on-going Statewide Comprehensive Outdoor Recreation Planning (SCORP) process as the means for enhancing the protection of and access to public beaches and other public coastal areas of environmental, recreational, historical, esthetic, ecological or cultural value.

While recreational access is an important use of coastal land and water, it is not the only potential use. Given the limited amount of undeveloped land in the coastal area and the competition from alternative uses, the priority for recreational use of coastal resources should be determined from a statewide perspective. Other parts of the state can provide water oriented recreational opportunities that will alleviate some part of the demand for the limited recreational resources of the coast. One of the primary advantages of utilizing the SCORP process is that coastal recreation can be considered and balanced in light of statewide recreation demands and opportunities.

The Statewide Comprehensive Outdoor Recreation Planning process encompasses the major elements which a shorefront enhancement planning process should include. On a statewide basis, the plan outlines a method for the determination of recreational needs, analyzes the supply and capabilities of existing facilities and areas and includes policies and recommendations to meet these needs. Coastal area concerns, needs, and recommendations have been, and will continue to be, incorporated into this established recreation planning process. The policies and recommendations contained in SCORP serve to guide state and municipal actions to meet identified recreational need. It represents an "action plan" to be addressed when monies for outdoor recreation are available.

The 1973 SCORP identifies water based recreation as the most critical recreation resource both from the demand for activities and the deficiency of available supply perspective. SCORP's chapter V (Major Water and Land Recreation Resource Issues) incorporates the coastal recreation analyses and recommendations from Planning Report 25. In Chapter VIII (Goals, Policies and Recommendations for Meeting Outdoor Recreation Needs) and Chapter IX (Connecticut's Five Year Action Plan), a number of policies and recommendations for increasing coastal access through coastal area acquisition and development projects are included.

Specific acquisition priorities include:

- Coastal region purchases for public access to Long Island Sound and for future development of water based activities. It is further recommended that coastal beach access offering a potential for swimming opportunities be acquired wherever they become available in parcels of manageable size.

- The acquisition and development of a publicly-owned boat-launching site in every town along the coast to provide additional fishing and boating opportunities.
- The acquisition of natural areas listed on the State's Inventory of Natural Areas and other critical habitats which are immediately endangered and cannot be protected by other methods. A program of planned acquisition of threatened sites or preservation through conservation easements and other land use control techniques must continue to be a state priority for preserving Connecticut's environment for its scientific, educational and natural values.
- The acquisition of cultural and historic sites where recreation can be provided. This can be best accomplished in conjunction with the Connecticut Historical Commission.
- The selection, acquisition and expansion of areas for new State Parks in proximity to the state's population centers.

Because land acquisition presents particular difficulties with respect to the timing of land sales, and the availability of funding, SCORP contains a number of recommendations for land acquisition assistance that are specifically related to the coastal area. These are:

- Establishment of a state-first option to purchase areas of highest coastal water-based recreation potential.
- Establishment of a funding procedure to allow timely exercise of purchase options when appropriate especially for shorefront properties following natural disasters.
- Provision of State matching funds for shorefront access planning under Sec. 315(2) of the Coastal Zone Management Act of 1972.

The SCORP planning process has also identified certain development needs which should receive priority attention. Coastal swimming and boating facilities as well as the protection of historic and cultural resources are among those identified. The recommendations include:

- The concentration of State development funds on expanding and upgrading the recreation potential of its existing coastal swimming beaches.
- Development of additional coastal swimming capacity at Rocky Neck, Hammonasset and Sherwood Island State Parks. Begin construction of Silver Sands State Park; one of the state's few remaining opportunities for significant new coastal swimming capacity.

- The thorough evaluation of all state owned coastal lands to increase recreation usage especially in providing swimming capacity.
- Development of existing sites acquired for boat launching areas and rehabilitation of sites as the first priority for increasing boating opportunities.
- Attempting to build-in recreation facilities in conjunction with the projects developed under the Federal Water Pollution Control Act.

The protection of sites and areas of historic and cultural resources are encouraged in SCORP through acquisition, establishment of historic districts, or the use of appropriate land use regulations.

SCORP also includes a Municipal Action Plan. The Plan encourages municipal acquisition and development when it is more appropriate (for example, when an available parcel is not of sufficient size to manage as a state-wide facility). Connecticut municipalities have relied on the Heritage Conservation and Recreation Service's Grant-In-Aid Program to relieve a major share of the burden of the cost for recreation land acquisition and development. Each municipality has its own specialized goals which meet local recreational needs and demands of its citizens. Shoreline acquisition and development are major goals of many coastal municipalities.

Connecticut Actions

Many of the recommendations contained in Planning Report #25 and the Statewide Comprehensive Outdoor Recreation Plan are currently being implemented in Connecticut.

A proposal to increase user capacity at Rocky Neck State Park is now in final design stage. The proposal includes constructing an additional parking lot, expanding the beach capacity by 50% through hydraulic fill from offshore, correcting and stabilizing the channel of Bride's Brook and adding to the existing sanitary facilities.

At Hammonasset State Park, improvements to the interior roads are being made to improve circulation and related access difficulties. A preliminary study concerning methods for stabilization of part of the eroding beach at Sherwood Island has been initiated.

Silver Sands State Park in Milford is the state's best opportunity for increasing access to the shorefront. It is currently 293 acres with 3100 feet of Sound frontage, and is ideally located midway between two existing State beaches (Sherwood Island in Westport and Hammonasset in Madison) and in proximity to the urban centers of New Haven and Bridgeport. An active landfill within the Park's boundary is contributing pollutants which are degrading the water quality in the area. United Illuminating Co. owns a near-shore island and a strip of land bisecting the park.

The process to close the Milford landfill at Silver Sands in a way which will make development of a future active recreation area on that land feasible is under way. The closing of the landfill is due to occur in March, 1979, and the purchase of the island and the parcel of land bisecting the park has been negotiated with the owner. Sufficient funds to develop the park's full recreational potential have been authorized by the state bond commission.

The proposed federal Long Island Sound Heritage Bill, sponsored by U.S. Senator Abraham Ribicoff of Connecticut, calls for the federal appropriation of 50 million dollars to provide New York and Connecticut with up to 75% of the costs of acquiring and/or developing fifteen areas of recreation, scenic and conservation value on Long Island Sound. The plan calls for federal acquisition of these lands and federally-supported state administration of the areas. While this bill would not greatly increase state land holdings since most of the proposed areas in Connecticut are currently either state or municipally owned, it would provide Connecticut with needed additional funds for development, restoration, and maintenance of recreational facilities along the coast, thereby increasing both the quality and availability of recreational opportunities in the coastal area.

In its fourth year of funding, the Coastal Area Management Program received a supplemental grant to be used for urban waterfront planning and coastal access projects. Three grants were awarded to municipalities for urban waterfront studies and one for a statewide recreational access study. Three of these four studies contain shorefront access components.

The New Haven waterfront study will examine the quantity and quality of existing waterfront access points and recreational boating potential in New Haven harbor. The task includes identifying ways of improving access to the waterfront and developing a specific strategy for harborwide park development.

The City of Norwalk owns a site that it wishes to develop along with an adjacent piece of property as a Historic Seaport to draw people to Norwalk Harbor and to serve as a focus for the rehabilitation of the south end commercial area. Norwalk's Waterfront Project involves preparing a development plan that will provide the City with the process for opening the waterfront to public access and encouraging additional economic activity in South Norwalk.

The CAM Recreational Access Project is examining the feasibility of using breakwaters, groins, jetties, and revetments, constructed in whole or in part through the use of public funds, for the purpose of providing recreational access for the general public. Recreational access opportunities offered by these existing structures are being assessed and prioritized. Particular emphasis is being given to use of the structures by minority populations, urban disadvantaged, the elderly and the handicapped.

In addition, CAM is currently in the final stages of negotiation for funding a proposal to complete the design of a linear waterfront park at the head of Stamford harbor as part of the urban waterfront planning grant program.

The Goals and Policies section (Sec IV) of this document contain a number of state policies pertaining to shorefront access and protection.

Public access is encouraged by: 1) making effective use of state-owned recreation facilities, 2) ensuring that new coastal structures not impair access to the beach below mean high water and, 3) that access be provided when granting public funds for erosion and flood control projects.

The policy addressing cultural resources encourages the protection and preservation of the historical and archeological resources of the coastal area.

Policies concerning transportation facilities require that rail, highway and airport improvements do not adversely impact, and where possible improve, both physical and visual access.

Boating policies encourage the provision of facilities without adversely impacting coastal resources, and to be located so as to assure optimal public access. As noted in Section IV, and discussed in Sections I and VI, these policies will be implemented through Connecticut's Coastal Area Management Program under the authority for specific state and local planning and regulatory programs.

Areas Of Particular Concern

A method for protecting certain shorefront areas is provided in this document. The protection needs of certain significant shorefront areas will be enhanced through their designation as areas of particular concern. The method and criteria for designating these areas - tidal wetlands, shellfish concentration areas, federal navigation channels, and dredged spoil disposal sites are described in Section VII. Other shorefront areas can be protected for their conservation, recreation, ecological or esthetic values by designation as areas for preservation or restoration. The procedures for identifying and designating future APR's are also described in Section VII of this document.

Authorities

As presented and reviewed in Section VI, the essential legal authorities necessary to carry out shorefront access and protection planning are held by the Department of Environmental Protection.

Section 22a-25 of the Conn. General Statutes gives the Commissioner of Environmental Protection the authority to acquire land for any purpose or activity relating to or compatible with the function of the Department of Environmental Protection. These duties include providing for the protection, enhancement and management of the public forests, park, open spaces and natural area preserves, and providing for the protection, enhancement and management of inland, marine and coastal water resources, including but not limited to wetlands, rivers, estuaries and shorelines.

Section 22a-21 authorizes the Commissioner of Environmental Protection to prepare, maintain and keep up to date a comprehensive plan for the development of the outdoor recreation resources and other natural resources of the state. The plan coordinates the activities and balances the interests and responsibilities of the component line units of the Department of Environmental Protection.

Another applicable authority is held by the Connecticut Historical Commission. Section 10-321d of the Conn. General Statutes gives to the Connecticut Historical Commission the authority to acquire historic structures or landmarks which the Commission determines to be of national or state historical importance for the purposes of public visitation and the protection of the heritages of the people of this state and nation.

Funding

Connecticut will continue, as it has in the past, to rely on a number of funding programs to enhance shorefront recreation and/or access.

The major source of federal funding is the Heritage Conservation and Recreation Service's Land and Water Conservation Fund. This program provides grants-in-aid to states and municipalities for the acquisition and development of recreation land on a 50% cost sharing basis. The Statewide Comprehensive Outdoor Recreation Plan is a prerequisite to qualify for the HCRS funds.

Two other related sources of federal funding are the Federal Aid in Wildlife Restoration Program (Pittman-Robertson) and the Federal Aid in Sport Fish Restoration Program (Dingell-Johnson). Pittman-Robertson funds have been used for the acquisition of tidal wetlands in the past and there are projects currently under consideration which would rely on this funding source. Dingell-Johnson funds have been used primarily for facilities and programs to support and improve sport fishing in the state.

Sec. 315 (2) of the CZMA Amendments could provide another source of federal funds for improving shorefront access. Though currently unfunded, Sec. 315 (2) authorizes grants of up to 50% of the cost of acquiring lands to provide access to public beaches and other valuable coastal areas. Thus, if funded, Sec 315 (2) could become a significant additional source of assistance.

A State Boating Fund, consisting of both state and federal monies is administered by the Department of Environmental Protection. This fund is used to develop and maintain state boat launching facilities.

The State of Connecticut currently has over \$20 million in bonding authorizations for land acquisitions and related recreational development that can be used to match existing federal funding sources.

A listing of additional sources of financial assistance for recreational activities appears in Appendix H (Complementary Legislation and Funding) of Planning Report #25.

Two bills have been introduced in the current (1979) session of the legislature that respond to concerns or recommendations contained in SCORP and Planning Report #25. Proposed bill number 6435 would establish a fund, not exceeding five hundred thousand dollars, for the Department of Environmental Protection to acquire rights-of-way to provide additional access to the Connecticut shoreline. Proposed bill number 1184 would establish a fund to be used by the Department of Environmental Protection for the purchase of land along Long Island Sound or other bodies of water made available through natural disaster where environmental considerations make rebuilding of the area an unsound policy.

EROSION PLANNING PROCESS

Introduction

Connecticut's coastal area shoreline and Long Island Sound were briefly introduced and described in Section II, Description of the Natural Environment. Geologically speaking, the north shore of Long Island is most aptly described as an embayed, primary coast, originally formed by glacial deposition and currently being submerged by rising sea level. These two processes, glacial deposition and submergence, are responsible for the overall configuration of Connecticut's present-day shoreline. Coupled with the low energy environment of Long Island Sound, which is protected from the open ocean by Long Island, they have produced a shoreline which is variably irregular and curvilinear in configuration and is composed of bedrock, glacial drift, tidal marshes and beaches.

The seven morphologic districts which comprise the north shore of Long Island Sound are shown in Figure 2. Statistics on their composition have been tabulated from surficial geology and soils maps and are presented in Table.1.

Review of all available pertinent literature and research dealing with the problems of shoreline erosion in the state indicates that only those portions of the coastal area fronting directly on Long Island Sound and the lower reaches of the state's three major tidal rivers are affected by erosion of any consequence. This direct Long Island Sound fronting shoreline constitutes 278 miles of the total 458 miles of coastal area frontage. Examination of state and federal expenditures for erosion control over the past twenty-five years further verifies this conclusion. For these reasons the analysis and planning processes have focused on the 278 mile portion of direct Sound-fronting shoreline. A detailed discussion of the processes of shoreline erosion their impacts and legal, institutional and operational means of mitigating their effects are presented in Planning Report 29.

Nature and Occurrence of Shoreline Erosion

Shoreline erosion in Connecticut has consistently expressed itself most significantly as a beach erosion problem. Statistics compiled for the Long Island Sound Regional Study (LISRS) in 1975 by the U.S. Army Corps of Engineers indicate that approximately 26 miles, or 10 percent of our shoreline, can be classified as subject to "critical erosion." The LISRS further states:

"The erosion is mainly confined to beaches that are receding at an estimated rate of one to one and one-half feet per year."

A more recent inventory conducted by the Coastal Area Management Program has concluded the following. Connecticut has a total of 278 miles of shoreline which front on Long Island Sound. Of that approximately 85 miles are beach, 69 miles are composed of glacial drift, 30 miles are saltmarsh, 44 miles consist of bedrock and the remaining 50 miles are dominated by artificial fill. Potentially, the beach, saltmarsh, glacial drift and artificial fill portions of the shoreline are erodible, while bedrock can be considered non-erodible. Based on a comparative analysis of historical shoreline information and aerial photographs, 33 miles, or approximately 12 percent of our shoreline are significantly affected by erosion. Table 6 gives further details on measurement techniques and definitions, and statistical breakdowns by town. Examination of the data contained in the table indicates the following towns encompass a majority of the state's significantly eroding shoreline:

Milford	6.5 miles
Old Lyme	3.5 miles
West Haven	4.6 miles
Stratford	2.4 miles
Fairfield	2.0 miles
Madison	2.0 miles

It is also worthy of note that 35 percent of the total shoreline miles classified as significantly eroding is attributable to shoreward migration being experienced along the state's larger barrier beaches. A complete listing of those sites considered to be significantly eroding is contained in Appendix J. Information on areas of significant erosion is also being transferred to resource factor maps (Appendix F, Figure F-6).

Relatively speaking, shore erosion on the north side of Long Island Sound is not as critical in terms of magnitude as that encountered along shorelines exposed to the open ocean. For instance, the outer shore of Cape Cod is subject to erosion rates on the order of three feet per year, or almost three times that experienced along Connecticut's coast. This difference is primarily a result of fetch limiting by Long Island. That is, Long Island functions as a wind break which effectively controls the generation of surface waves in the Sound. Consequently, smaller, shorter waves predominate in the Sound and littoral transport along the shoreline is generally very weak. As a secondary characteristic, fetch limiting confines significant erosion to those periods when major storms and hurricanes occur. It also markedly reduces the generation of swell (long, low waves) which can act to move material onshore to replenish eroded areas. Near the mouths of the three major coastal rivers, the Connecticut, Thames and Housatonic and at several of the larger seaward projecting headlands strong tidal currents act to supplement weak wave induced littoral transport and may, at times, play a dominant role in the erosion process.

TABLE 6
SHORELINE COMPOSITION AND EROSION STATISTICS

TOWN	DOMINANT SHORELINE COMPOSITION ¹				POTENTIALLY ERODIBLE SHORELINE ³ mi. (km)	SHORELINE SIGNIFICANTLY AFFECTED BY EROSION ⁸ mi. (km) %		BEDROCK ⁴ mi. (km)	SHORELINE TOTAL ⁷ mi. (km)
	BEACH mi. (km)	GLACIAL DRIFT ² mi. (km)	SALT MARSH ⁵ mi. (km)	ARTIFICIAL FILL mi. (km)					
Greenwich	1.7 (2.7)	7.3(11.8)	2.7 (4.4)	7.0(11.3)	18.7 (30.3)	-----		3.8 (6.1)	22.5 (36.5)
Stamford	3.2 (5.2)	1.1 (1.8)	0.3 (0.5)	3.8 (6.1)	8.4 (13.6)	0.6 (0.9)	5.4	1.9 (3.1)	10.3 (16.7)
Darien	.6 (1.0)	4.9 (7.9)	1.1 (1.8)	1.1 (1.8)	7.7 (12.5)	-----		5.9 (9.5)	13.6 (22.0)
Norwalk	15.0(24.3)	9.7(15.7)	1.6 (2.6)	3.4 (5.5)	29.8 (48.4)	-----		3.8 (6.1)	33.6 (54.4)
Westport	5.0 (8.2)	4.3 (6.9)	2.1 (3.4)	2.6 (4.2)	14.1 (22.8)	1.4 (2.3)	10.0	----	14.1 (22.8)
Fairfield	4.2 (6.8)	1.6 (2.6)	0.7 (1.1)	1.3 (2.1)	7.8 (12.6)	2.0 (3.3)	26.2	----	7.8 (12.6)
Bridgeport	3.0 (4.8)	2.1 (3.4)	0.3 (0.5)	8.7(14.0)	14.1 (22.8)	0.4 (0.6)	2.6	----	14.1 (22.9)
Stratford	4.0 (6.5)	0.7 (1.1)	3.2 (5.2)	3.6 (5.8)	11.5 (18.6)	2.4 (3.9)	21.0	----	11.5 (18.6)
Milford	5.9 (9.6)	3.3 (5.4)	1.9 (3.1)	0.8 (1.3)	12.0 (19.4)	6.5 (10.)	52.5	0.4 (0.7)	12.4 (20.1)
West Haven	4.5 (7.4)	1.1 (1.8)	0.1 (0.2)	0.4 (0.7)	6.3 (10.2)	4.6 (7.5)	72.0	0.2 (0.3)	6.4 (10.4)
New Haven	1.8 (2.9)	0.8 (1.3)	---	3.4 (5.5)	6.0 (9.7)	0.25(0.4)	3.0	0.3 (0.5)	6.3 (10.2)
East Haven	1.0 (1.6)	0.2 (0.3)	0.2 (0.3)	---	1.4 (2.3)	0.9 (1.5)	40.5	0.9 (1.5)	2.3 (3.7)
Branford	2.6 (4.2)	2.3 (3.7)	2.0 (3.2)	1.1 (1.8)	8.0 (13.0)	-----		12.9(20.9)	20.9 (33.9)
Gulfport	0.8 (1.3)	0.9 (1.5)	1.5 (2.4)	1.9 (3.1)	5.1 (8.3)	1.3 (2.0)	13.0	4.9 (7.9)	10.0 (16.2)
Madison	4.9 (7.9)	1.1 (1.8)	.2 (0.3)	0.8 (1.3)	7.0 (11.3)	2.0 (3.3)	26.3	0.6 (1.0)	7.6 (12.3)
Clinton	2.7 (4.4)	0.8 (1.3)	1.3 (2.1)	1.2 (1.9)	6.0 (9.7)	1.2 (1.9)	20.0	----	6.0 (9.7)
Westbrook	3.8 (6.2)	1.7 (2.8)	---	---	5.6 (9.1)	1.4 (2.2)	25.0	----	5.6 (9.1)
Old Saybrook	3.8 (6.2)	1.5 (2.4)	1.4 (2.3)	1.4 (2.3)	8.1 (13.1)	1.7 (2.7)	21.0	----	8.1 (13.1)
Old Lyme	3.8 (6.2)	1.4 (2.3)	2.1 (3.4)	0.1 (0.2)	7.4 (12.0)	3.5 (5.7)	47.3	---	7.4 (12.0)
East Lyme	3.0 (4.7)	2.7 (4.4)	1.3 (2.1)	0.2 (0.3)	7.1 (11.5)	0.5 (0.8)	5.4	2.0 (3.2)	9.1 (14.7)
Waterford	2.5 (4.0)	2.7 (4.4)	0.2 (0.3)	0.6 (1.0)	6.0 (9.7)	0.5 (0.8)	7.3	0.8 (1.3)	6.8 (11.0)
New London	1.7 (2.7)	1.2 (1.9)	----	1.7 (2.7)	4.5 (7.3)	0.4 (0.6)	8.0	0.4 (0.7)	5.0 (8.1)
Groton	3.8 (6.1)	7.6(12.3)	2.5 (4.0)	2.6 (4.2)	16.5 (26.8)	1.2 (2.0)	6.8	1.8 (2.9)	18.3 (29.6)
Stonington	2.9 (4.7)	7.4(12.0)	3.0 (4.9)	1.8 (3.0)	15.2 (24.6)	0.3 (0.5)	2.0	3.0 (4.9)	18.2 (29.5)
TOTALS	96.2 (139.6)	68.4(110.8)	29.7(48.1)	49.5(80.1)	234.3(379.4)	33.1(53.6)	11.9	43.6(70.6)	277.9 (450.1)

1. Shoreline composition categories indicate dominant shoreline types (i.e. minute, narrow beach shorefront, backed immediately by glacial till, is considered to be dominantly glacial drift). Measurements were compiled from Surficial Geology and Soils maps of a scale of 1:24,000.
2. Glacial drift includes all types of glacial material: outwash, till, end moraine, etc.
3. Beach, glacial drift, salt marsh and artificial fill are all considered to be potentially erodible.
4. Bedrock is considered to be non-erodible or to have limited potential for erosion.
5. Salt marsh measurements are generalized and do not include frontages on minor streams and ditches.
6. Only large islands, such as Masons Island (Stonington), and large island groups, such as the Norwalk and Thimble Islands, are included in the shoreline measurement.
7. Shoreline measurements include river frontage up to the first bridge, usually I-95.
8. Significant erosion occurs where erosion presents significant problem because the rate of erosion, considered in conjunction with economic, industrial, recreational, agricultural, navigational, demographic, environmental, and other relevant factors indicates that action to mitigate such erosion may be justified.

In conjunction with erosion, rising sea level is also affecting the shoreline. Recently (within the last 100 years), sea level in Long Island Sound has been rising at the rate of one to one and one-half feet per century. On initial consideration an annual increase in sea level of .08 to .16 inches seems insignificant. However the impact of such a fluctuation is more evident when its effect on a sloping land surface is considered. For example, an increase in sea level of one to one and one-half feet over a century would "drown" 20 to 30 feet of shorefront with a slope of 1:20 (one foot increase in elevation for every 20 horizontal feet).

Although Connecticut's shoreline experiences lower erosion rates as a result of sheltering by Long Island, the intense use and development of the coast offset these lower rates and focus the impact of smaller scale changes. This phenomenon is particularly evident along the more intensely developed coastal segments west of New Haven.

Historically, structural stabilization (groins, seawalls, breakwaters, etc.) has accompanied recreational, residential, commercial and industrial uses of the shoreline, almost as a corollary. As a result, structural stabilization plays a major role in the erosion-sedimentation process affecting our shore. Revetments (sloping seawalls) seawalls and bulkheads have been used to stabilize many of the sediment sources which naturally supplied materials to beaches and dunes through wave and current induced erosion and transport. Groins and jetties which are utilized to protect beaches and retard littoral (along shore) transport of material have worked, but often at the expense of inducing erosion on adjoining parcels. In addition, figures compiled as part of the LISRS indicate that total erosion damages of \$1.8 (1970 dollars) million are experienced along our coast annually. Of that total approximately \$.5 million is attributable to the cost of repairing existing erosion control structures. In short, structural methods used to prevent erosion are not only costly but have been utilized without adequate attention to natural processes, or without the benefit of a clearer understanding of coastal processes which exist today.

Clearly the erosion "problem" is a manifestation of the interaction of a number of variables. However, it may be briefly characterized as a storm induced beach erosion problem which has been intensified by the high use demand for recreational beach in the state; the intense use of all shorefront areas for recreational, commercial, residential and industrial purposes; and the high degree of structural shoreline stabilization.

In terms of its spatial occurrence, significant erosion is limited to two general segments of our shoreline. The first segment lies west of New Haven and includes shorefront in the towns of Westport, Fairfield, Bridgeport, Stratford, Milford and West Haven. The second segment encompasses the shoreline area between Guilford and Old Lyme. Geographically

these two segments correspond with shoreline districts B, C and E (Figure 2). Their composition is largely glacial drift (primarily outwash) and beaches. Damages arising from erosion in these areas account for nearly 65 percent of the total annual damages experienced as a result of erosion.

Erosion Management Techniques

Many techniques may be applied to shorelines in an attempt to control or mitigate the effects of erosion. In general, they fall into two categories. Structural alternatives are those involving the construction of a concrete, timber, sheet steel or rock structure which divert erosive forces or contain the shoreline which is eroding. Non-structural alternatives are those which involve no structures at all, such as placement of sand fill, dune building or restoration, and control of land use in such a manner as to allow erosion to continue without affecting buildings or facilities.

Over the long term neither structural or non-structural techniques will halt shoreline recession. Rising sea level in conjunction with storms, winds, waves and tidal currents will continue, on a geologic time scale, to rearrange and submerge Connecticut's shoreline. With this in mind, the approach to be used in dealing with eroding shoreline will depend on the economic value and use of the shoreline for which protection is considered and the monies available for implementation of protection. Appendix K contains a complete listing of all shoreline protection works constructed with state and federal funds, their costs, locations and a description of each. A complete presentation of erosion control techniques is contained in Planning Report 29. The following is a brief discussion of structural and non-structural alternatives.

Structural Techniques

Structural erosion control techniques may be generally divided into three categories:

- (1) Wall-type structures built immediately adjacent and parallel to shore such as seawalls, revetments and bulkheads.
- (2) Structures built perpendicular and connected to shore such as groins and jetties.
- (3) Structures built offshore or near shore such as breakwaters.

Each of these generic types of control works is common along Connecticut's shore.

Seawalls, Revetments and Bulkheads--These wall type structures are commonly used to contain fill placed in shoreline areas and/or to protect eroding shorefront in the immediate vicinity of houses, roads and other endangered facilities. In and of themselves they are not effective means of protecting beaches. In many instances they have been used to stabilize sources of beach material supply thereby contributing to erosion in adjacent areas. Seawalls and bulkheads may actually induce erosion at their bases by reflecting scouring waves from their vertical faces.

Groins and Jetties--Groins and jetties are typical structural means of controlling beach erosion or containing sand fill placed to form beaches. Their function is to retard the transport of materials along and parallel to shore. Jetties differ from groins in that they are also used to stabilize inlets and channels. On the north shore of Long Island Sound groins and jetties appear along nearly every shorefront. They have compartmentalized or divided most of the natural beach areas along the coast and have significantly altered nearshore sediment systems. Short term alterations in shoreline configuration are invariably associated with the placement of groins and jetties. Realignment is caused by groin initiated erosion of the beach on the downdrift side and accretion on the up-drift side. Groins and jetties are not effective means of controlling movements of material perpendicular to shore such as storm overwash.

Breakwaters--Breakwaters are erected in offshore waters for the purposes of providing protection for harbors, anchorages and port facilities. They produce quiet water areas by forming a surface against which waves break. By providing protection from wave action they enhance the depositional environment in shoreline areas which they serve. Breakwaters are extremely expensive to construct and their design and layout require extensive analysis of local conditions. Use of these structures solely for erosion control can be very effective but it is generally economically unsound.

Non-Structural Techniques

Dune management, placement of sand fill and shoreline use controls can provide effective non-structural alternatives for the mitigation of erosion. The central value of these techniques lies in their ability to function with the natural processes of erosion.

Sand Fill--Placement of sand as fill in beach areas or to create beaches is one of the most common types of erosion mitigation techniques in use in Connecticut. Sand fill may be used in two ways. It may be placed directly into the shore to be protected or developed as beach, or it may be placed in an area adjacent to and updrift of the area to be protected. That is, it may be directly placed or placed to form a feeder beach which is designed to be eroded by waves and

currents and transported via littoral transport to the area to be protected. In Connecticut sand fill has been used nearly exclusively in conjunction with groins and jetties.

In order for sand fill to provide effective mitigation to erosion a source of sand must be readily and economically available to provide initial fill material and to facilitate annual replacement of eroded fill. The fill must also have grain size and distribution characteristics that are compatible with the area into which it is to be placed. Fill material placed along any shoreline to create or enhance beaches is, at best, a temporary solution. Continuous replacement of eroded fill is necessary annually.

Dune Management--The construction of dunes and the stabilization of natural and artificial dunes with vegetation, commonly American Beach Grass (*Ammophila breviligulata*) represent a second type of non-structural erosion mitigation. Under this technique dunes are constructed or enhanced by the placement of sand fill and planting of stabilizing vegetation. Snow fences may also be used to physically retain initial sand fill until vegetative cover is adequate, or to control access points so as to prevent the destruction of dune grasses. Dunes are constructed parallel to and behind the beach proper and serve to trap and absorb sand which is transported onshore by wind and storm overwash.

Dune maintenance and/or construction can provide a most effective means of alleviating shoreline erosion. Since dunes act as a dynamic beach sand reservoir and flood barrier they are able to adjust to varying wave and wind conditions and rising sea level, in contrast to static structures such as seawalls and groins.

Dune management has been limited in use as an approach to shoreline erosion in Connecticut. Only one such management effort has been undertaken at Hammonasset State Park in Madison. The effort was initiated in 1973.

Utilization of dune management and construction does have several drawbacks. Existing uninterrupted dunes are not common along the shoreline and in many areas construction has taken place in such close proximity to the beach proper that creation of a dune line would also require massive beach fill. Even so, dune enhancement is probably the most viable approach to managing barrier beaches where necessary.

Use Controls--Controlling the use of shoreline areas in order to avoid the creation of erosion hazards and to prevent endangerment of development is another method of non-structural mitigation. Under this approach shoreline areas may be designated as no construction areas or special structural design may be required within them. Alternatively, setbacks for buildings may also be established. These setbacks may be based on some multiple of the annual erosion rate at the location where construction is to occur and the expected longevity of the proposed structure. Both methods require the identification of

justifiable and equitable parameters for delineation of boundaries or setbacks.

The former approach is being applied in Connecticut, through the Department of Housing and Urban Development's (HUD) Flood Insurance Program. HUD-FIA has identified several zones within the coastal area on the basis of the 500 year (B zone) and 100 year (A zone) coastal floods and the occurrence of areas exposed to storm waves (V-zones). These zones have been designated primarily for flood management purposes. However, they are also effective for use in erosion management since most erosion is storm induced.

Both methods are best applied to property which is undeveloped. Establishment of a setback line after an area is developed provides no protection for development nor does it preclude the need to construct protective works. In addition, the setback method requires an accurate and enforceable determination of erosion rates and lines. Unfortunately, annual erosion rates which are accurate and area specific are not presently available for Connecticut's coast.

Final establishment of HUD-FIA hazard zones has not been completed in all coastal municipalities but preliminary boundaries and associated criteria have been implemented coast-wide.

Alternatives

Each structural and non-structural alternative has unique characteristics which make it the most desirable approach to erosion mitigation in a particular situation. For example, non-structural protection of a developed bluff area is more difficult to achieve than structural protection simply because of topographic and use considerations. Setbacks and building restrictions would prove useless to protect existing development and the placement of beach fill or dunes is not always compatible with the shoreline characteristics. Hence, structural controls, such as a revetment, would need to be implemented in order to provide protection. In addition to site and development considerations, costs of construction and maintenance needs play a significant role in the selection of erosion control alternatives. In the case of Connecticut's shoreline these considerations take on an added complexity. The varied use and development of the shoreline coupled with its extremely variable and diverse composition and configuration preclude the application of one type of alternative (structural or non-structural) coast-wide.

Several observations serve to provide a basis for the establishment of priorities for the use of control techniques. Review of structural alternatives which have been implemented in the state indicates that initial construction and associated annual and post-storm maintenance costs are higher than the cost of non-structural components. In addition, it is not uncommon for the period of payment on loans

incurred to implement erosion control works to exceed the effective life of the protection project. In major part, the cost of annual maintenance, which must be borne by the recipients of the project, has led to inefficient or non-existent maintenance which has reduced effective project life. Aside from the costs of maintenance and implementation the exclusive use of structural remedies has significantly altered the way in which the shoreline as a whole naturally copes with erosion. Connecticut's coast has been highly impacted by structural stabilization which has induced as many problems as it has solved.

In contrast to structural measures, non-structural alternatives provide several distinct advantages. The initial costs of implementation are lower (\$4-\$8 for a cubic yard of sand fill vs. \$30 per cubic yard of stone). Sand fill, beach development and dune construction serve to enhance and expand recreational resources and therefore provide recreational benefits in addition to mitigating shore erosion. These types of erosion protection also function more effectively with the natural system as opposed to structural measures which seek to limit or alter completely erosional processes. Because they augment natural erosion and flood control mechanisms, non-structural managerial techniques are often more easily maintained.

In recognition of the advantages and drawbacks of both structural and non-structural erosion control techniques Connecticut's approach to determining the most effective means of mitigating erosion will be predicated on site specific conditions. In general, however, it will be the state's policy to implement controls on the following priority basis:

- (1) First priority: non-structural control
- (2) Second priority: combination structural and non-structural control
- (3) Third priority: structural control
- (4) Fourth priority: no control

Management Approach

In order to provide for continued planning and management of the effects of shoreline erosion the state has implemented an approach consisting of the following interrelated components:

- (1) Regulation of activities affecting and affected by shoreline erosion through use of state authorities governing coastal structures and dredging, and municipal authorities under coastal site plan review (pending legislation) and the National Flood Insurance Program.

- (2) Funding, design, construction and management of structural and non-structural control techniques, in accordance with established goals and policies, through the existing state initiated Flood Control and Beach Erosion Program.
- (3) Provision of technical assistance to individuals and municipalities, through the Department of Environmental Protection, during the design and implementation of non- publicly funded control techniques.
- (4) Continued planning and evaluation of erosion and its effects in all coastal shoreline areas in cooperation with established municipal flood and erosion control boards.

Authorities

Coastal Structures Regulatory Program--Sections 25-7b through 25-7f of the Connecticut General Statutes (C.G.S.) authorize the Commissioner of Environmental Protection to regulate the erection of structures and the placement of fill in the tidal, coastal and navigable waters of the state. Under this regulatory program all construction and filling waterward of the mean high water line in the state's tidally influenced waters must be conducted in accordance with a permit issued by the Department of Environmental Protection (DEP). All permits issued under these authorities are, by law, evaluated with respect to "the prevention or alleviation of shore erosion" (Section 25-7b). Provision is also made under these sections for the removal of nuisance structures and levying of fines for violations.

Coastal Dredging Regulatory Program--The authority to regulate the removal of sand, gravel or other material from beyond the mean high water mark is vested in the Department of Environmental Protection by Sections 25-10 through 25-18 of the Connecticut General Statutes. Prior to the initiation of any dredging or excavation within the state's coastal waters a permit must be obtained from the Commissioner of Environmental Protection. Only previously permitted maintenance dredging of navigation channels, berths, basins, moorings and waterfront facilities are exempt from regulation. As part of its review of dredging and excavation applications the Department of Environmental Protection must evaluate the impact of the activity on shore erosion. Section 25-18 provides penalties for violations.

Flood Control and Beach Erosion Program -- Authority for cooperative funding, design and construction of erosion control works is derived from sections 25-69 through 25-98 of the Connecticut General Statutes. These sections provide for the organization of municipal flood and erosion control boards and empower the Department of Environmental Protection (DEP) to cooperate with such boards and the federal government in the construction of and payment for flood and erosion control systems. An initial sum of four million dollars was allocated to pay for the costs of state participation in the development of beach erosion control systems under the following cost sharing formulae:

PERCENT CONTRIBUTION		
<u>Property Ownership</u>	<u>State</u>	<u>Municipal</u>
public (municipal)	66.6%	33.3%
public (state)	100%	---
private	33.3%	66.6%

State funded loans are also available to local authorities for the initial payment of the local contribution on federal projects.

During the period between 1955 and 1971 a total of fifty erosion control projects were completed at a total cost of 7.5 million dollars (Appendix K). Nineteen of the projects involved in the participation of the federal government through the U.S. Army Corps of Engineers under Section 103 of the Rivers and Harbors Act of 1899 (33 U.S.C. Sections 426e to 426i). The Corps' involvement consisted of contribution of 50% of the cost of the construction of protection works which benefitted public property.

More recently, in 1978, the state legislature allocated an additional 3 million dollars for the continuation of the beach erosion control program. Utilizing these and other specially allocated funds, studies have been initiated for the protection of shoreline areas in Milford, East Haven and Westport. It is fully anticipated that erosion management under the existing program will continue to improve contingent upon funding availabilities at state, municipal and federal levels.

In order to provide for a fair and equitable allocation of public funds for the mitigation of shoreline erosion and to provide for the greatest public benefit from expenditures, it will be the state's policy to provide erosion control funds on the following basis:

1. State owned public shorefront.
2. Municipally owned shorefront where general public access is provided.

3. Municipally owned shorefront where general public access is limited.
4. Quasi-public shorefront where public access is provided.
5. Quasi-public shorefront where general public access is restricted.
6. Privately owned shorefront.

Coastal Site Plan Review--Sections 13 and 16 of the proposed amendments to the Connecticut Coastal Area Management Act require municipalities to initiate a site plan review for the following activities when they occur within the coastal boundary:

1. Buildings, uses or structures subject to zoning regulations (Section 8-3 of the Connecticut General Statutes (C.G.S.)).
2. Subdivisions of land (C.G.S. Section 8-25).
3. Planned unit developments (C.G.S. Section 8-13f).
4. Variances (C.G.S. Section 8-7).
5. Requests for special exceptions or special zoning permits (C.G.S. Section 8-2).
6. Municipal improvements (C.G.S. Section 8-24).

As part of the review process, all activities requiring site review under the Coastal Area Management Act will be evaluated with respect to six criteria. During the site review consideration will be given to a set of advisory guidelines developed for application in the coastal area (Appendix D). For the purposes of integrating shoreline erosion considerations into all phases of a project's review (municipal, state, federal) two important sets of guidelines have been established for use at the local level. Guidelines for coastal hazard areas and erosion/sedimentation are detailed in Appendix D. Essentially they outline the pertinent and important points which must be considered in order to determine the suitability of a use occurring within a coastal flood or erosion hazard area and to determine the project's impact on the natural processes of erosion and sedimentation. Resource factor maps depicting shoreline composition, areas of significant erosion and historic shoreline changes have been developed to aid municipal decision makers in the evaluation of erosion hazards (Appendix F, Figure F-6).

National Flood Insurance Program--The National Flood Insurance Act (42 U.S.C. 4001-4128) provides low cost insurance against flood damages in designated hazard areas(see section on use controls). In return, communities must apply a set of established regulations to the evaluation of any development involving hazard areas. Part of the regulations which are applied involve the evaluation of erosion hazards. Sections 1910.5 (a) (1), (2) and (3) of Title 24 of the Code of Federal Regulations apply in all of Connecticut's coastal communities. Under these authorities a permit is required for development in areas of flood-related erosion "as they are known to the community". In the evaluation of permit applications a determination is made regarding the safety of site improvements from flood-related erosion and the likelihood that the proposed improvements will induce erosion. In the event a proposed improvement is found to be in the path of flood-related erosion or likely to induce flood-related erosion, relocation or protective measures may be required. Factor maps depicting areas of significant erosion are being developed by the CAM Program and may be used in the identification of hazard areas (Appendix F, Figures F-5 and F-6).

Policies

In addition to the policies specifically noted in this section the policies contained in Section IV will be applied in the state and municipal regulatory review of shoreline activities. The policies will also apply to state instituted erosion control projects and to federal mitigation efforts through consistency requirements. Particular attention and emphasis will be given to the policies developed for:

- Coastal Hazard Areas
- Erosion and Sedimentation
- Coastal Structures
- Coastal Dredging
- Beaches and Dunes
- Intertidal Flats

SECTION IX
PUBLIC PARTICIPATION AND
FEDERAL AGENCY CONSULTATION

PUBLIC PARTICIPATION

Public participation in Connecticut's CAM program has been and will continue to be a serious effort. The Federal Coastal Zone Management Act requires genuine public involvement in every phase of development of a coastal management program. CAM has encouraged and sought active public assistance in both drawing up the management program and in seeking reaction to its various recommendations. Affected local, regional, state and federal agencies as well as interest groups and the general public have been involved. CAM is committed to providing continued opportunity for public and government involvement during program review and approval and implementation.

As described below, a variety of methods has been used to make full participation an actuality in Connecticut's CAM program. Documentation of all meetings is contained in Appendix L.

CAM Advisory Board

A cornerstone of CAM's public participation process has been its Advisory Board, made up of twenty-four representatives of state agencies, regional planning agencies and citizens. The ten citizen members reflect a wide variety of social and economic interests including business and industry, coastal recreation, marine fisheries, coastal property owners, conservation, environmental-ecological concerns, urban minorities and inland residents concerned with the coastal area.

From its inception, the CAM program has received policy direction from the Advisory Board. Meeting each month, it has acted as a sounding board for major issues and policy options during program development. The Board established eight subcommittees, each to work on one major component or aspect of Connecticut's program such as management options, coastal legislation, and regional facility siting. The public information and citizen participation subcommittee worked with CAM staff to establish and implement a comprehensive public participation strategy.

In both 1978 and 1979 the Advisory Board sponsored and introduced proposed coastal management legislation to the Connecticut General Assembly. A precise listing of Board members and meetings appears in Appendix L.

Public Meetings

Between the fall of 1975 and February 1979 the CAM Program has been formally involved in over 250 public meetings with local officials, special interest groups and organizations, and interested citizens. In 1976 CAM initiated preliminary meetings with mayors, first selectmen, and staffs of coastal municipalities to discuss CAM's objectives, federal requirements, and possible approaches. In 1977 and 1978, further discussions were conducted with chief elected officials and town staff, including Planning and Zoning Commissions, Conservation Commissions, Inland Wetland Commissions, and others, on CAM's proposed draft legislation.

A series of twenty-three coastal town meetings were conducted for CAM during October and November of 1976 by the League of Women Voters. The meetings were held to obtain preliminary information and opinions from coastal residents concerning problems in their communities, and suggestions for the design of a coastal management program. The findings of these meetings were collected by the League in a report and published by the CAM Program. In early 1977, CAM sponsored nine regional workshops and three Cooperative Extension workshops to present program options and obtain input from local officials and interested citizens.

By invitation CAM staff members have met with over one hundred special interest groups and organizations between 1975 through 1978. Many meetings were briefings on the status of CAM, while others were presentations concerning natural resources, resource management, the history of the coast, or other special topics. In addition, approximately 20 meetings have been held with a citizen initiated "Friends of CAM" coalition, which consists of several special interest groups explicitly interested in coastal management.

Legislative Process and Public Hearings

Efforts to secure new legislative authority to establish a shared state/local coastal management program began in late 1977. In November, 1977, a discussion draft of CAM legislation was released for public review and comment by the CAM Advisory Board. At that time, the CAM staff met with each of the thirty-six coastal towns to solicit comments of local officials and citizens. Revisions based on comments received were incorporated into a final draft, dated February 6, 1978, and it was submitted to the General Assembly's Environment Committee. After five public hearings in March 1978, a substitute Coastal Management Act (P.A. 78-152) establishing coastal management policies and a framework for further legislative action was passed and signed into law. An interim committee of legislators was also established to work on finalizing CAM enabling legislation for follow-up action by the 1979 session of the General Assembly.

The 1978 Coastal Management Act also required the CAM program to submit a special report to the General Assembly by September 1978. This report (Planning Report No. 27) addressed specific information requests listed in P.A. 78-152 and included revised draft legislation recommended for consideration in the 1979 General Assembly. During October and November 1978, ten public hearings were held by the Interim Study Committee throughout the coastal area to solicit public testimony on the CAM report and legislative proposals. Subsequently, the CAM draft legislation was submitted by the Interim Study Committee in their January 1979 report to the General Assembly for consideration by the Environment Committee. Public hearings on final legislation are expected to take place in March of this year.

Media Efforts

Early in CAM program development, a comprehensive media contact list including all major newspapers and radio and television stations in Connecticut was assembled for use in publicity and information efforts.

To afford maximum opportunity for public involvement, advance notice of workshops and public hearings as well as releases on CAM events of general public interest have been disseminated to the press and radio stations. Media efforts have also included slide show and film presentations and several radio and television appearances.

Public Information

Providing information to the public on CAM's progress, major coastal policy issues and opportunities for involvement has been a continuing role of CAM's public participation staff. The program newsletter, technical planning reports and several special publications have been widely distributed throughout Connecticut.

Land's End: CAM's quarterly newsletter LAND'S END covers CAM's program proposals, announces meetings and workshops, advertises publications and CAM speakers, and includes informational and educational items of interest to coastal citizens. Circulation has grown to approximately 4,200 and includes a wide range of organizations and interested citizens throughout the state.

Citizens' Bulletin: Each month CAM has written an article on coastal management related topics for the state Department of Environmental Protection's Citizens' Bulletin. The Bulletin is an informational and educational publication, which covers program and unit activities of the Department, with a circulation of some three thousand. One issue in 1976 was completely dedicated to the coast, and coastal management.

Citizen's Handbook & Questionnaire, and Resource Atlas. In June 1977, CAM published a fourteen-page Citizen's Handbook which was distributed to several thousand citizens. The purpose of the handbook was to outline CAM's preliminary recommendations and to obtain public input. A citizen questionnaire, concerning coastal management options was included in the handbook, and a subsequent survey of citizen responses was completed.

Long Island Sound: An Atlas of Natural Resources was also published in June of 1977. The fifty-four page scientific document touches on all the different natural aspects of Long Island Sound and its environs, and was intended as an educational and informational tool. In response to the document's popularity, several thousand copies have been distributed to schools and citizens throughout the state. Circulation to date has amounted to over 9,000 copies.

Planning Reports. To date, CAM has published twenty-eight planning reports on a variety of topics. Although the reports are technical in concept and serve as research and development tools, many copies have been distributed to local officials and technical staffs, and to citizens upon request. A complete annotated listing of CAM planning reports and publications is provided in Appendix L.

Seacoast Celebrations

Governor Ella Grasso declared June 11, 1977 and September 17, 1977 coastal awareness days for Connecticut. Over twenty thousand people attended the two Seacoast Celebrations in Mystic and in New Haven. The purpose of the celebrations was to attract large numbers of Connecticut residents to the coast in order to increase awareness of the shoreline, the problems that confront it, and the opportunities for its future. Many private and governmental organizations provided exhibits, and many entertaining and educational activities took place. A CAM display was set up, and staff members were on hand to distribute free literature and to answer questions. For CAM the celebrations provided opportunities to reach more people, to spread CAM Program news, and to encourage citizen participation in the coastal management planning process.

Oyster Festivals, Boat Shows, Exhibits

Several oyster festivals took place in 1977 along Connecticut's coast, namely, in Milford, Norwalk, and New Haven. At each of the festivals CAM operated an exhibit, handing out free publications and answering questions. In addition, each year CAM has displayed at the Connecticut Marine Trades Boat Show, a three day event that attracts large crowds, and nearly every boating manufacturer and dealer in the area. With the cooperation of the Union Trust Bank of Connecticut, during the summer and fall of 1977, CAM

placed week-long displays in the lobbies of those banks located in Groton, New London, Old Saybrook, New Haven, and Madison.

Continued Public Involvement

The CAM program will continue to provide ongoing opportunities for public input and involvement in the following ways.

1. The CAM Advisory Board, made up of government agency, regional planning agency and citizen membership will continue to provide policy direction to the CAM program throughout program approval and implementation.
2. Public information efforts via LAND'S END, media releases, speaking engagements, special workshops, a film and slide show loan library and participation in coastal events will be an ongoing commitment of the CAM program to increase public awareness and involvement.
3. CAM will provide pertinent information to enable users to act in a manner consistent with Connecticut's coastal program and policies. A handbook on local coastal program development will be prepared to assist coastal municipalities.
4. The draft coastal management program will be widely distributed for review and comment by federal, state, regional and local governments as well as the general public. All key program documents will be advertised, made available and sent to interested agencies and citizens.
5. An annual CAM report to the General Assembly will summarize the activities of the agency with regard to the implementation of the provisions of a Coastal Management Act. The report will be a public document. (See Appendix C Section 20(c).)
6. CAM will conduct periodic workshops throughout program implementation with citizens and municipal officials responsible for working decisions under a coastal management program. (See Appendix C, Section 5.)

FEDERAL CONSULTATION

In the course of program development, CAM has recognized the importance of providing full federal participation. During the first and second year of the program, contacts were initiated and views exchanged with several interested federal agencies. Descriptions of agency responsibilities were solicited and agency liaisons to the Connecticut program were identified.

In 1976 CAM contracted with the Soil Conservation Service for mapping of the accelerated soil survey data being developed in the coastal area and arranged for the Corps of Engineers to survey coastal flooding in Connecticut. In addition, representatives from a few federal agencies, such as the National Marine Fisheries Service, have participated in the CAM Advisory Board meetings.

In September 1976 all relevant federal agencies were invited to send representatives to a special Federal Agency Workshop in Connecticut that focused on establishing better state and federal coordination in coastal management matters. This workshop marked the beginning of more formal coordination through the implementation of a review and comment process. CAM formally solicited comments on key portions of the management program that were sent to relevant federal agencies. Copies of a National Interest and Federal Consistency Questionnaire, Coastal Goals and Policies and CAM draft legislation were sent to agency contacts. A summary of the nature and frequency of these contacts can be found in Appendix L. In addition, CAM formally asked federal agency assistance in identifying federal properties located in the coastal area.

As Connecticut approaches the review and approval phase of the program, a careful evaluation of federal comments on the program draft will be conducted and where appropriate the substance of relevant comments will be accommodated in the management program.

The following points cite mechanisms that the CAM program will employ to insure future input in Connecticut's program.

1. CAM will maintain an updated and active list on relevant federal agencies and will continue to solicit agency comments on program documents involving major program decisions. Copies of the program newsletter LAND'S END and CAM annual reports will continue to be sent to relevant agencies.
2. Through the A-95 review process federal, state and interstate agencies are provided the opportunity to review Connecticut's annual grant applications and supplemental grant applications.

3. Because federal agencies will be obligated to carry out their activities in a manner consistent, to the maximum extent possible, with the Program, appropriate federal agencies will be contacted to insure consistency with the state management plan; particularly with regard to: 1) direct federal activities, 2) federally licensed and permitted activities, 3) federally licensed and permitted activities described in OCS plans, and 4) federal assistance to state and local governments.
4. CAM will initiate contact with relevant federal agencies regarding permit coordination and simplification (i.e. Army Corps of Engineers, Department of the Interior, Department of Transportation, EPA).

