A Partnership To Restore And Protect The Sound

THE LONG ISLAND SOUND STUDY

CCMP IMPLEMENTATION 1997 TRACKING REPORT

June 1998

[redacted]

Executive Summary

The 1997 Tracking Report documents the third year of implementation of the *Comprehensive Conservation and Management Plan for Long Island Sound*. The 1997 Tracking Report is divided into seven sections corresponding to the On-going Programs and Actions in the CCMP.

The year was notable for the completion of long-term nitrogen reduction targets and habitat restoration goals, each capping multi-year planning efforts, as well as significant progress toward implementation. Some of the major accomplishments are summarized below.

Eliminating Adverse Impacts of Low Dissolved Oxygen in the Sound: Low dissolved oxygen (hypoxia) has been identified as the most significant water quality problem in LIS. Since 1990 EPA and the States of Connecticut and New York have been implementing a phased program to cap and then reduce nitrogen loads to address the problem.

Status:

- In February 1997, the LISS released a proposal for Phase III Actions for Hypoxia Management calling for a 58.5 percent reduction in human caused nitrogen loads to the Sound. This level of reduction is expected to reduce the maximum area of the Sound unhealthy for fish and shellfish by 75 percent and the duration of unhealthy conditions by 85 percent. A series of public meetings were held in September 1997 to obtain public input on the proposal and the Phase III Plan was adopted in February 1998.
- CTDEP and the LISS met with 50 municipalities throughout Connecticut to present the implications of the Phase III Plan to those municipalities with sewage treatment plants.
- The estimated nitrogen load from human activity in the LIS drainage basin that entered the LIS in 1997 is 35,100 tons per year; 3,900 tons below 1990 peak loadings. The Phase III Plan goal of a 58.5 percent reduction over 15 years includes interim targets to achieve 40 percent of the goal in 5 years, and 75 percent of the goal in 10 years. The Annual Nitrogen Reduction Summary & Phase 3 Targets bar chart shows the annual reduction of nitrogen to the LIS in tons per year from all human activities and compares this to the 5, 10, and 15 year targets.
- The two bar charts that follow (NYSDEC Nitrogen Loading Reductions Summary and CTDEP Nitrogen Loading Reductions Summary) show sewage treatment plant nitrogen load reductions in New York and Connecticut from 1990 to 1997 for those STPs required to track nitrogen loads for Phase II reductions. (The data for each bar chart is included in tables opposite it.) All New York and Connecticut STP facilities will track nitrogen in 1998 and nitrogen discharged from all facilities under Phase III will be reported in 1998.
- In 1997, the maximum area and duration of dissolved oxygen (DO) levels less then 3 mg/l in LIS was 57 Km^2 and 48 days. Low (less than 5mg/l) DO conditions began in early July. By the second week of August, DO less than 3 mg/l were recorded in LIS bottom waters as far east as Greenwich or the New York Connecticut boarder. By late September however, DO recovered to above 5 mg/l everywhere in the Sound. These were the mildest DO conditions seen in the LIS in more than 11 years.
- In New York, voters approved a $1.75 Billion Clean Water/Clean Air Bond Act in November 1996 with $200 million set aside for Long Island Sound projects. Six STPs were awarded funds in 1997 for projects to

be implemented in 1998 (Bellgrave STP, Glen Cove STP, Huntington STP, Bowery Bay STP, Port Washington STP and Mamaroneck STP). Total funding exceeded $9.4 Million.

- In 1996-97 Connecticut awarded $250 million for sewage treatment plant upgrades to benefit Long Island Sound. Construction has begun on three full denitrification plants (Norwalk, Waterbury and New Canaan), and three additional plants are in planning for denitrification. Connecticut has also initiated a "Quinnipiac River Nitrogen Control Project" to study nitrogen removal at the five plants discharging to the nitrogen-rich river.
- A process for nitrogen trading is being investigated as a potential tool to achieve nitrogen reduction in the most cost effective manner.
- Both states continue to prioritize funding for nonpoint source pollution control projects benefitting the Sound. Funding for LIS related nonpoint control projects in Connecticut totaled $477,070 in FY97. In New York, LIS Nonpoint Source Implementation Grants through the Environmental Protection Fund totaled $123,750. Two examples in New York include the Town of Huntington for an engineering feasibility study to develop mechanisms to better manage the flow of storm water into Centerport Harbor and surrounding wetlands and the Town of Southold for planning, designing and implementing a storm water mitigation system for Mattituck Creek. (See H2-6 in the Tables section for a comprehensive list of projects.)
- The Norwalk River Watershed Initiative (NRWI) was established in February 1997 to protect and restore the natural resources found in the Norwalk River Watershed. The NRWI Committee and subcommittees prepared goals and objectives for the initiative and received public comment on them in June 1997. A draft NRWI Management Plan was subsequently developed and was recently released for comment. The Management Plan presents implementation recommendations based on input from the public and committee and subcommittee members.

Controlling Major Sources of Pathogens: Pathogens can cause illness in people exposed through bathing in or consuming shellfish from contaminated waters. Pathogen contamination results in closed beaches and shellfish areas, hurting local economies and damaging public perception of the Sound.

Status:

- Phased combined sewer overflow (CSO) abatement projects are underway in both states to alleviate pathogen problems.
- In Connecticut, projects have been funded in Bridgeport, New Haven, Norwich/Jewett City, Middletown and Hartford, and expenditures of $560 million are expected over the next 15 years to complete these projects.
- In New York, 1) NYC continues its $1.5 billion program to abate CSO's, 2) has increased capture of CSO's from 18 percent to 40 percent, and 3) is in almost complete compliance with EPA's minimum standards for CSO controls. NYC's comprehensive sewer abatement program is scheduled for completion between 2001 and 2006.
- Both states are working on programs to control discharges from vessels. A "no discharge zone status" has been designated for Huntington/Lloyd Harbors, Port Jefferson, Mamaroneck, and the Village of Port Washington Harbor.
- Fifteen marinas in New York have received Federal Clean Vessel Act funds for construction of boat pump out facilities and funds have been provided for construction of 10-20 new pumpout facilities and up to 5 pump-out facilities in Connecticut; while operations and maintenance funding can be provided for up to 40

facilities.

- Four municipalities in New York and one in Connecticut are actively working to address pathogen abatement through sanitary surveys or stormwater improvements.
- Broader efforts underway in both states to address nonpoint sources of pollution and stormwater management will also contribute to the control of pathogens to the Sound.

Protecting the Sound from the Adverse Effects of Toxic Substances: Toxic substances can cause adverse human and ecosystem health risks.

Status:

- EPA and the states of Connecticut and New York are working together to update the *Interim Plan for Disposal of Dredged Materials in Long Island Sound*. Work is nearing completion on a study to provide background information necessary to update the interim plan, including information on current regulatory requirements, reviewing alternatives to open water disposal and identifying future research needs. The report was due September 1997 but has been delayed. However, a first draft of the background information has undergone agency review.
- In June 1997, the Connecticut Hazardous Waste Management Service's Technical Assistance Program (ConnTAP) completed a five year project to provide pollution prevention technical assistance to Connecticut manufacturing facilities. (ConnTAP was eliminated from the State budget, effective July 1, 1997.) Over the project period ConnTAP conducted 147 Pollution Prevention site assessments and produced a final report summarizing the results of the program.
- NYSDEC and CTDEP have updated each their lists of impaired waters under Section 303(d) of the Clean Water Act. NYSDEC's draft list calls for completion of 59 Total Maximum Daily Load (TMDL) analyses over the next two years, while CTDEP's draft list calls for completion of at least 12 TMDL analyses over the same time. Both state's lists are pending EPA approval. Included on CTDEP's list is the LIS nutrient/hypoxia TMDL.

Reducing Litter and Debris in the Sound: Trash floating in coastal waters can be a nuisance or hazard for boaters, can harm wildlife, and reduces our enjoyment of the Sound.

Status:

- Efforts to control combined sewer overflows and improve stormwater management, described under pathogens, are helping to reduce the amount of litter reaching the Sound.
- During 1997, 1,690 volunteers collected over 30,000 pounds of trash from over 46 miles of shoreline. In Connecticut, clean-ups involved over 550 volunteers in 1997 and resulted in the removal of over 14,300 pounds of trash from 17.5 miles of shoreline in 1997.
- Over 18,390 storm drains have been stenciled since 1991 with the message "Don't Dump-Drains to Long Island Sound" with 7,390 of these completed in 1997.
- In New York, over 3,330 drains have been stenciled with a bi-lingual "Clean Streets Clean Beaches" slogan (Spanish and English) with 330 of these completed in 1997.

Restoring and Protecting Habitat: Restoring and protecting the overall abundance and diversity of habitats and living marine resources in the Sound contributes to the Sound's ecological and economic well being. Years of

neglect and damaging actions have diminished the abundance and diversity of habitats and marine resources causing water quality problems, habitat degradation and loss, and land use and economic impacts.

The LIS Habitat Restoration Strategy, developed over the last three years, was adopted by LISS in February 1998. The goals of the Habitat Restoration Strategy include: 1) continuing the active partnership between federal agencies, states, local municipalities, and the public through the New York Sea Grant, the CAC, and environmental groups; 2) restoring the ecological functions of degraded and lost habitat; 3) restoring at least 2,000 acres and 100 river miles of habitat within the first ten years of the initiative; and 4) completing a habitat restoration manual by Spring 1998.

Status:

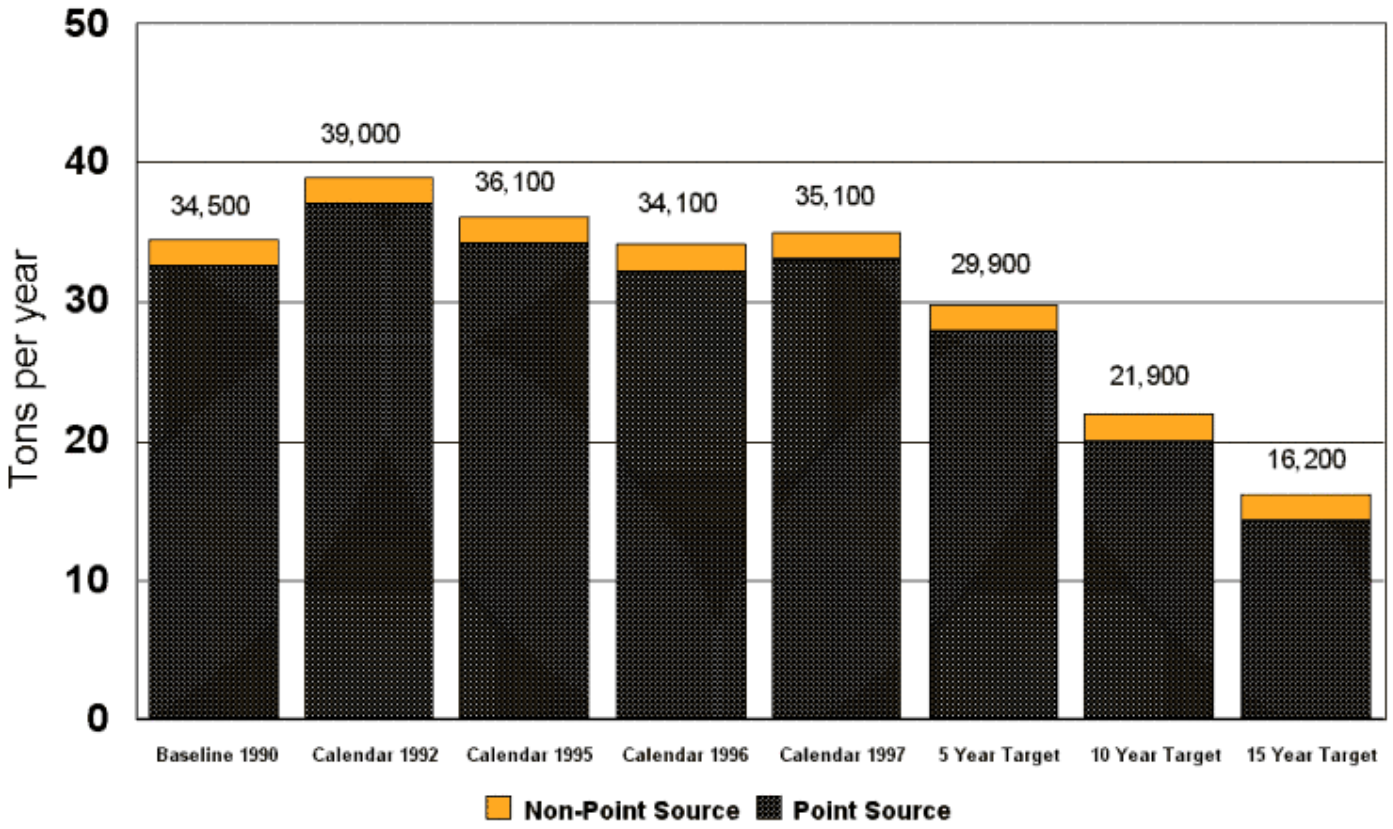
- A bi-state habitat restoration planning process initiated during 1995 has resulted in the identification of more than 450 sites that have been degraded and have potential to be restored. Criteria for prioritizing the sites have been developed and an initial ranking performed. An interagency team is focusing on 12 terrestrial and aquatic habitats.
- A draft Habitat Restoration Strategy was completed and made available for public review during May 1997 and was adopted in February 1998.
- Fourteen restoration projects were completed under Connecticut's Tidal Wetlands Restoration and Coves and Embayments programs and several others were initiated. Nearly $1 million was awarded for 12 projects under a new River Restoration Fund, and habitat-related projects were supported under Connecticut's LIS Research Fund.
- The NYSDEC has two tidal wetland restoration projects in progress and two in the planning process. DEC has also completed a draft Habitat Management Strategy Action Plan for Oyster Bay/Cold Spring Harbor.
- Six habitat restoration projects (4 in Connecticut and 2 in New York) were selected and awarded funds by EPA. The projects include tidal wetland and coastal grassland restoration and anadromous fish passage.
- Four habitat restoration projects were selected for funding under the New York Bond Act for SFY 1997-98.
- Connecticut is completing computerized mapping of colonial waterbird habitat, while the U.S. Fish and Wildlife Service has compiled related data for the Sound in New York. Connecticut has completed computer mapping of tidal wetlands using aerial photography.

Raising Public Awareness and Participation through Education and Outreach: A significant factor toward long-term CCMP effectiveness is the ability to increase the public's awareness of and participation in activities designed to protect the LIS. Educating LIS watershed residents and increasing the number of people that take an active interest in protecting and restoring the Sound helps to nurture long-term stewardship ideals in the local communities. As the LIS is restored to a more healthy ecosystem these ideals will help ensure its maintenance well into the future.

- In May 1997, nine public meetings were held presenting the Habitat Restoration Strategy. More than 200 participants attended the public meetings and a poster depicting the nominated sites was distributed to over 4,000.
- In September 1997, six public meetings were held presenting the Phase III Proposal for Hypoxia Management. More than 210 participants attended the public meetings and a 25 page report was produced and distributed to over 4,000 to explain nitrogen reduction efforts. There were extensive public comments. The LISS documented the comments and LISS's responses to them in the *Public Comment* and *Public Comment Response* documents.

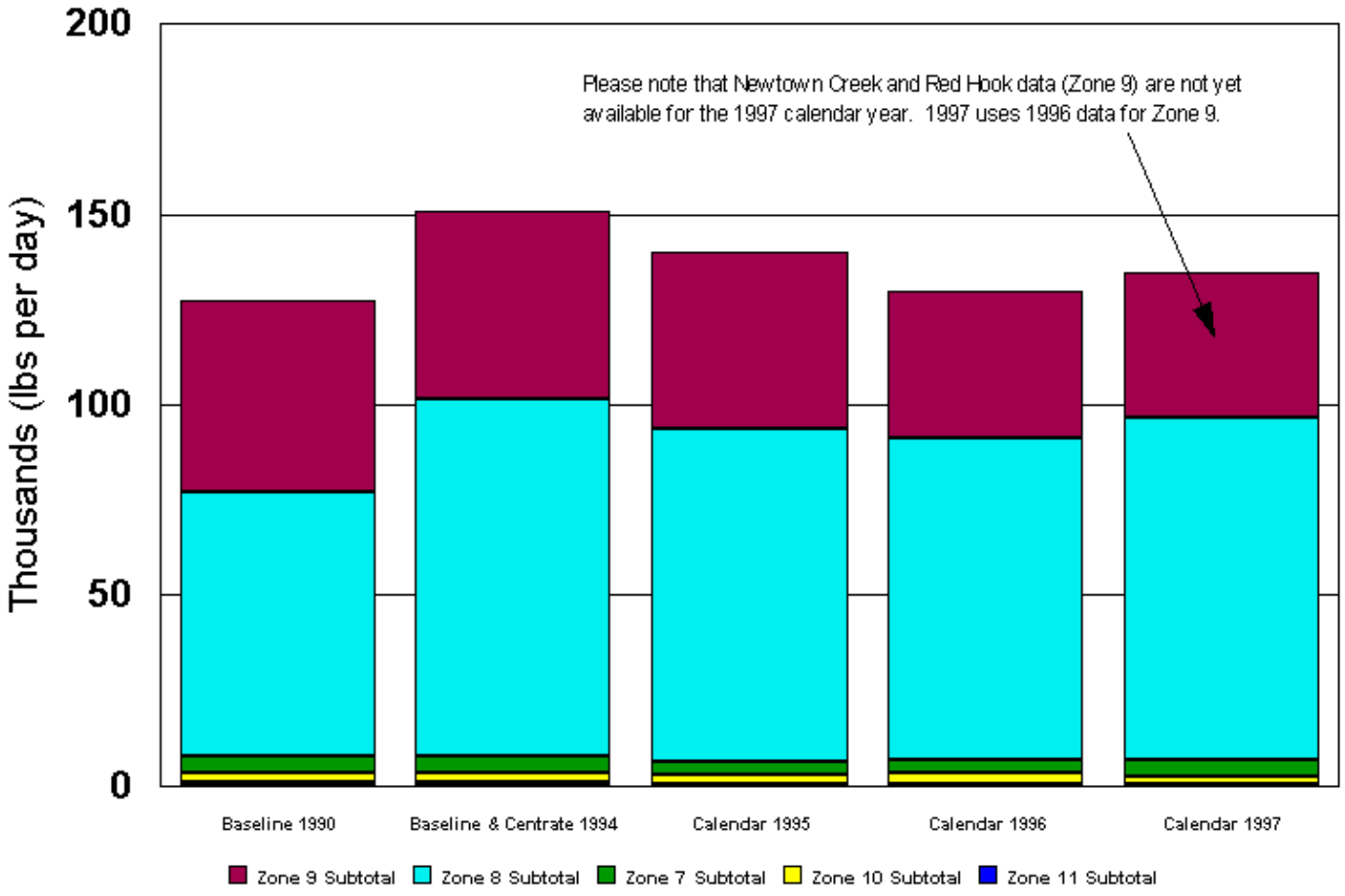
- Two new Fact Sheets (*The impact of Atmospheric Nitrogen Deposition on LIS* and *Alternative Strategies for Hypoxia Management*) were prepared in 1997.
- Three Newsletters were released in 1997 covering timely LISS topics, the three topics and titles were: 1) *Habitat Restoration*, 2) *Dredged Sediment*, and 3) *Small Grants Program*.
- In 1997, the LISS Outreach Program presented 7 slide shows to 188 people and prepared 7 displays seen by over 20,000 people with 775 requests for information.
- Two videos were produced (*The Living Sound* and *Long Island Sound: Everybody's Sound*) to be distributed to high schools, municipalities, and non-profit groups, which explains the hypoxia problem in the LIS and management plans to address it.
- LISS materials were displayed and handed out at the 1997 Earth Day, Coast Guard Day, and Oyster Festivals in Connecticut.
- The CTDEP License Plate Fund supports four categories of activities for outreach efforts, including public access, public education, habitat restoration, and research. Total funding came to $277,808 in 1997.
- In 1997 the LISS created and expanded a World Wide Web (WWW) Site that has been among the most visited of EPA Region 1 WWW pages. The Site includes fact sheets, slide shows, newsletters, LIS links and contact information. You can find the LISS WWW Site at: www.epa.gov/region01/eco/lis/.
- NYSDEC, CTDEP, and EPA provided outreach on LIS programs to local governments and local officials through workshops held during several LIS cruises.
- CTDEP and NYSDEC held meetings with local municipalities and towns about how the Phase III Plan actions will effect each of them.
- Since the inception of the LIS Small Grants Program, the New York Sea Grant has funded 21 projects with a total of $64,912.95 helping 156 teachers, 1,400 children, and producing 15,000 publications. In 1997 alone, 8 projects were funded with just over $23,000.

Annual Nitrogen Reduction Summary & Phase 3 Targets

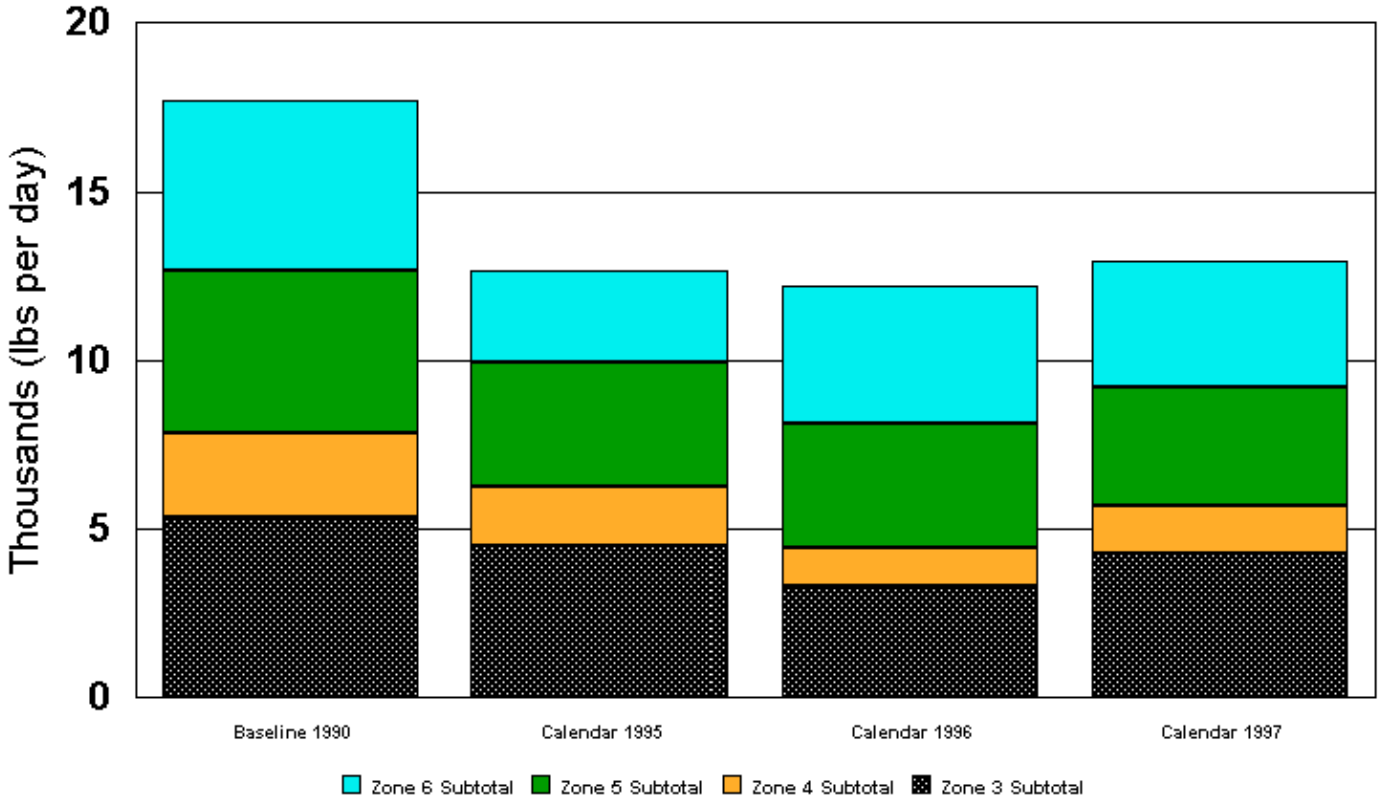


1) Non-point Source loading each year is held constant.
2) 1997 uses 1996 loadings for Zone 9 as 1997 loadings are not yet available.
3) Connecticut treatment plants exceeded their goal of 12,766 lbs/day on average for 1997 due to construction activities implementing nitrogen removal at some of the treatment plants in the first half of 1997. For the second six months of 1997, nitrogen loads averaged approximately 15% (or 1750 lbs/day) below their goal.

NYSDEC Nitrogen Loading Reductions Summary



CTDEP Nitrogen Loading Reductions Summary



Connecticut treatment plants exceeded their goal of 12,766 lbs/day on average for 1997 due to construction activities implementing nitrogen removal at some of the treatment plants in the first half of 1997. For the second six months of 1997, nitrogen loads averaged approximately 15% (or 1750 lbs/day) below their goal.

STPs with Nitrogen Loading Data in Connecticut in lbs/day

ZONE	Sewage Treatment Plant Facility	(Baseline) 1990	1995	1996	1997
3	Branford	600	677	707	753
3	New Haven	3635	3392	2218	2943
3	West Haven	1120	460	421	594
ZONE 3 SUBTOTAL		**5355**	**4529**	**3346**	**4290**
4	Milford Beaver Br.....	260	179	84	103
4	Milford Housatonic	915	689	468	544
4	Seymour	243	75	75	81
4	Stratford	1085	890	472	708
ZONE 4 SUBTOTAL		**2503**	**1733**	**1099**	**1436**
5	Bridgeport East	1140	562	651	684
5	Bridgeport West	2300	2103	2274	2043
5	Fairfield	1275	939	706	649
5	Westport	150	96	65	108
ZONE 5 SUBTOTAL		**4865**	**3700**	**3696**	**3484**
6	Greenwich	1380	807	913	684
6	New Canaan	160	118	92	99
6	Norwalk	1470	726	1075	828
6	Ridgefield	120	28	29	29
6	Stamford	1850	1055	2005	2118
ZONE 6 SUBTOTAL		**4980**	**2734**	**4114**	**3758**
TOTAL OF ALL ZONES ABOVE		**17703**	**12696**	**12255**	**12968**

(Cells with an “nya” indicate that data is not yet available for this facility in this year.
Cells with “na” indicate not applicable. Note, + indicates Zone 9 is missing from total.)

STPs with Nitrogen Loading Data in New York in lbs/day

ZONE	Sewage Treatment Plant Facility	Base Line (BL) 1990	BL + Centrate 1994	1995	1996	1997
7	Blind Brook	338	na	187	234	238
7	Mamaroneck	2135	na	1296	1341	1439
7	New Rochell	1516	na	1598	1619	1783
7	Port Chester	563	na	509	516	529
ZONE 7 SUBTOTAL		**4552**	**4555**	**3590**	**3710**	**3989**
8	Bower Bay	21349	16040	18633	19667	19964
8	Hunts Point	15565	28220	24150	23519	25429
8	Tallman Island	9424	6380	8174	8829	8911
8	Wards Island	22443	42670	36267	32361	35412
ZONE 8 SUBTOTAL		**68781**	**93310**	**87224**	**84376**	**89716**
9	Newtown Creek	46919	45270	40845	33759	nya
9	Red Hook	4045	4610	5517	4528	nya
ZONE 9 SUBTOTAL		**50964**	**49880**	**46362**	**38277**	**nya**
10	Belgrave	213	na	239	215	192
10	Glen Cove	893	na	982	1347	824
10	Great Neck SD	457	na	469	449	420
10	Great Neck (V)	212	na	250	226	213
10	Oyster Bay	220	na	139	204	199
10	Port Washington	655	na	504	575	595
ZONE 10 SUBTOTAL		**2650**	**2650**	**2578**	**3016**	**2443**
11	Huntington	448	na	206	293	276
11	Kings Park	134	na	89	66	48
11	Port Jefferson	202	na	119	128	105
11	SUNY	208	na	79	64	66
ZONE 11 SUBTOTAL		**992**	**992**	**493**	**551**	**495**
TOTAL OF ALL ZONES ABOVE		**127939**	**151387**	**140247**	**129930**	**96643 +**

(Cells with an “nya” indicate that data is not yet available for this facility in this year.
Cells with “na” indicate not applicable. Note, + indicates Zone 9 is missing from total.)

SUMMARY OF MANAGEMENT ACTIONS: HYPOXIA

1. REDUCING NITROGEN FROM SEWAGE TREATMENT PLANTS AND OTHER POINT SOURCES (CCMP TABLE 4, P. 32)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
H1-1.The states of New York and Connecticut will continue their point and non-point source permitting and enforcement programs as a primary mechanism of pollutant load reduction. Fundamental to the direction of these programs are the states' water quality standards and classifications that provide the basis for management policies and decisions.	CTDEP, NYSDEC	Substantive Progress	In Connecticut, CTDEP has used this authority to implement nitrogen retrofits at sewage treatment plants, encourage full upgrades for nitrogen removal in Norwalk and Waterbury and reduce nitrogen loads at major industries. In New York, the NYSDEC has issued permits with nitrogen limits requiring compliance with 1990 "no-net-increase" load limits. Limits for the NY City STPs went into effect full effect on January 1, 1997. NYSDEC filed suit against NYCDEP in March 1998 for not meeting these limits.	New denitrifying facilities are planned for Branford (2000), Bridgeport (1998), and New Canaan (1998)
H1-2.The state of New York will ensure compliance with the consent order to upgrade the Newtown Creek plant to provide secondary treatment with biological nutrient removal retrofit modifications.	NYSDEC, NYCDEP	Substantive Progress	A two track facility plan for upgrading Newtown has been approved by NYSDEC. The plan is to provide 50% influent nitrogen removal either through step denitrification or through the use of biofilters. Estimated project cost is $1.3-1.8 B, with construction completed by 2007. A $12 million biofilter evaluation (4 mgd capacity) began operation in December 1996. In 1997, the biofilter was evaluated and final design for Phase I common elements was be completed.	The biofilter evaluation is in the final stages and should be completed in June, 1998.
H1-3.The state of Connecticut will freeze nitrogen discharges and, if appropriate, explore opportunities to reduce nitrogen discharges at three industrial facilities with significant nitrogen discharges.	CTDEP	Fully Met	Upjohn is phasing out its operation. Pfizer has a new treatment facility with nitrogen loads less than half its baseline. Cytec is in permit revision.	

1. REDUCING NITROGEN FROM SEWAGE TREATMENT PLANTS AND OTHER POINT SOURCES (CCMP TABLE 4, P. 32)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
H1-4.The municipalities in the states of Connecticut and New York will implement biological nutrient removal retrofits to reduce the load of nitrogen to the Sound on an interim basis.	C	CTDEP	By 1995	$18.1 million	Complete	State Clean Water Fund awarded $15 million to retrofit 11 southwestern Connecticut sewage treatment plants. All the projects have been completed and have resulted in achievement of the Phase II reduction goal of 850 tons per year.	Keep running the facilities as designed under the Phase II retrofit program.

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

1. REDUCING NITROGEN FROM SEWAGE TREATMENT PLANTS AND OTHER POINT SOURCES (CCMP TABLE 4, P. 32)							
Action	**Type[1]**	**Responsible Parties**	**When**	**Estimated Cost**	**Status[2]**	**Description**	**Upcoming Action**
		NYSDEC	1995 for 5 plants 1996 for 4 plants 2000 for centrate	$103.1 million	Behind Schedule	In New York City, frothing problems have delayed some nitrogen removal activities. The Tallman Island STP continues to operate BNR. One STP in Westchester County, Blind Brook, has been retrofit for BNR. In total, 1997 nitrogen loadings are 3,000 tons/year less than peak loadings from centrate addition, but remain about 1,300 tons/year above the 1990 load. Six projects in five municipalities in NYS were awarded funding of $8.5 million from the Bond Act funds in early 1998.	Bond Act funds will be awarded and projects initiated.
H1-5.Conduct feasibility studies and pilot demonstrations for nitrogen removal at 13 of its 14 sewage treatment plants, with actual design for Newtown Creek.	C	NYCDEP	1994-1998	$5 million	Behind Schedule	NYCDEP prepared a nitrogen control feasibility plan to identify measures needed to ensure that "no-net-increase" and Phase II reductions are met for the Upper East River. Nitrogen effluent limits went into effect on January 1, 1997.	NYCDEP will continue conducting pilot work to test new processes and technologies.
H1-6.Westchester County will investigate sludge rehandling at their four facilities to determine if opportunities exist for nitrogen load reduction.	C	Westchester County	1993-1994	$500,000	Complete	No opportunities exist for nitrogen reduction through sludge rehandling.	None
H1-7.The state of New York will continue to seek to reach agreement with Belgrave, Great Neck East Shore, Huntington, Oyster Bay, Port Washington, and Kings Park on permit modifications for implementing the *no net increase* in nitrogen policy.	C	NYSDEC	1994	Redirection of base program	Complete	Agreement was reached in August 1994 on an aggregate limit to freeze the loads at 1990 levels.	None

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

2. REDUCING NITROGEN LOADS FROM NON-POINT SOURCES (CCMP TABLE 5, P.34)

Ongoing Program	Responsible Parties	Status[2]	Description	Upcoming Action
H2-1.The states of Connecticut and New York will continue to use their existing authority to manage non-point source pollution and appropriate federal grants such as CWA section 319, 604(b), and 104(b) to carry out projects that will help prevent increases and, to the extent practicable, achieve reductions in the non-point source loads from high priority drainage identified in the CT and NY portions of the watershed.	CTDEP NYSDEC EPA	Partial Progress	CTDEP is working to implement broad non-point source controls that include nitrogen benefits. Currently, 71 active 319 projects are being implemented from FY92-98 grants, a watershed model is being developed, and a watershed program has been implemented with early emphasis on the Quinnipiac River. Watershed initiatives are being conducted for the Norwalk and Quinnipiac rivers and Sasco Creek. 30 projects funded under 319 were closed out in 1997. NYSDEC has completed section 319 funded projects in Conscience Bay (Town of Brookhaven) and Goose Creek (Town of Southhold), and is implementing projects in Centerport Harbor (Town of Huntington) and Dyke Road (Town of Brookhaven). In addition, a 604(b) funded project is being implemented in Oyster Bay.	CTDEP will expand its watershed program and complete the watershed model.
H2-2.The states of CT and NY are developing their coastal non-point source control programs, as required by section 6217 of the Coastal Zone Management Act.	EPA NOAA CTDEP NYSDOS	Substantive Progress	CTDEP has received final draft findings and conditions (9/24/97) for its Coastal Non-point Source Control Plan and has submitted a response to EPA and NOAA on conditions. NYSDOS has completed a final draft of its Conservation Management Plan for LIS. A final EIS for the plan has also been completed.	NOAA/EPA are reviewing the CTDEP response. The NY plan is awaiting approval by the Governor.
H2-3.The states of CT and NY will continue to implement general storm water permit programs to control the discharge of storm water from industrial, construction, and municipal activities, in accordance with EPA's national program regulations. These permits will regulate discharges from construction activity greater than five acres and from eleven industrial categories.	CTDEP NYSDEC	Substantive Progress	CTDEP has three general storm water permits (industrial, construction, and commercial) for which over 1,500 registrants have been recorded. Presently, Stamford is the only community in CT that is required to have an individual storm water permit under the national program. NYSDEC has three general storm water permits (industrial, construction, and commercial).	Focus permitting efforts on the Thames and Hockanum river watersheds in CT using FY96 104(b)(3) grant.
H2-4.The states of CT and NY will continue to implement their existing permitting programs, such as the inland and tidal wetland programs, to address non-point nutrient control with respect to LIS management needs, as appropriate.	CTDEP NYSDEC	Substantive Progress	Connecticut has virtually eliminated tidal wetland loss. Inland wetlands are strictly regulated based on restrictive soil categories with no minimum threshold size. The net area of vegetated tidal wetlands has increased in New York, partly due to the tidal wetlands permitting program.	
H2-5.The states of CT and NY will implement the requirements of the reauthorized Clean Air Act to achieve additional nitrogen emission controls. Major actions include reduction of nitrous oxide emissions through adoption of statewide enhanced vehicle inspection and maintenance programs and stricter emission controls for stationary sources such as power plants.	CTDEP NYSDEC	Partial Progress	CTDEP Air and Water Bureaus have been evaluating mutual ozone/nitrogen deposition needs. Nitrogen monitoring and research has been funded through UCONN to detail sources and sinks of nitrogen and mercury. CT filed a petition under Sec. 126 of the Clean Air Act requesting EPA to make a finding that pollution from out of state sources contributes significantly to our air quality problems and seeking reductions from power plants and industrial sources for nitrogen oxides. EPA failed to take action on the petition and CT joined with seven other states to sue EPA for failure to take action. EPA is now under agreement to take action on interstate transport issues. NYS has adopted stricter standards for its automobile inspection program.	

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

2. REDUCING NITROGEN LOADS FROM NON-POINT SOURCES (CCMP TABLE 5, P.34)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
H2-6.The EPA will make non-point source management of nitrogen and other pollutants identified by the LISS, through wetlands and riparian zone protection as well as best management practices implementation, high priorities for funding under Section 319, 104(b), and 604(b) of the Clean Water Act.	C	EPA	Annually starting in 1994		Substantive Progress	NYSDEC awarded grants for non-point source projects for LIS under the Non-point Source Implementation Grants Program for the following projects: 1) $30,500 to the Town of Huntington for an engineering feasibility study to develop mechanisms to better manage the flow of storm water into Centerport Harbor and surrounding wetlands; 2) $29,000 to the City of New Rochelle for installation of a stream floatable debris collection device; 3) $25,000 to the Town of Southold for planning, designing and implementing a storm water mitigation system for Mattituck Creek; and, 4) $39,250 to the Suffolk County Dept. of Public works to control storm water that was discharged directly into Stony Brook Harbor. Funds for this program are provided by Section 319 of the federal Clean Water Act and the State Environmental Protection Fund. NYS Department of State is soliciting applications for $4.5M in statewide 50/50 matching grants for Local Waterfront Revitalization Projects. In addition to non-point source pollution control projects, activities may include restoration of former natural coastal areas or enhancement of existing natural coastal areas, stream corridor restoration plans, and designing public access improvements. The following 1997 non-point pollution control projects are included in or will lead to Local Waterfront Revitalization Programs developed in partnership with the NYSDOS. Bayville: Creek Rd erosion & stormwater mitigation plan $4,000. Huntington: Huntington Harbor management plan, $30,000. N. Hempstead: Hmpst. Hrbr water quality improvements, $50,000. Southhold: Mattituck Inlet stormwater mitigation plan, $40,000. EPA and CTDEP have awarded funds for Long Island Sound non-point control projects in the following amounts: Section 319 — Section 104(b)(3) FY98: $455,000 FY97: $477,070 FY96: $330,750 — $30,000 FY95: $122,545 FY94: $231,096 — $232,948	EPA and the states will continue to make NPS management of nitrogen and other LISS-priority pollutants a priority for funding under sections 319, 104(b)(3), and 604(b) of the Clean Water Act, taking into consideration the increased discretion the states have in directing grant funds under the Performance Partnership Grant system.
H2-7.Investigate expansion of storm water permitting programs to regulate communities with	C	CTDEP	1994	Redirection of	Behind	CTDEP has evaluated a general municipal storm water permit that would add cities that meet certain density and	EPA is expected to publish final Phase II storm water

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Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

2. REDUCING NITROGEN LOADS FROM NON-POINT SOURCES (CCMP TABLE 5, P.34)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
populations fewer than 100,000 that border Long Island Sound within high priority management zones.		NYSDEC		base program	Schedule	population criteria, but a program has not been initiated and awaits EPA revisions in storm water regulations. NYSDEC is awaiting promulgation of Phase II Storm water Regulations for USEPA.	regulations for smaller cities and construction sites in 1999.
H2-8.In cooperation with the state of New York, Westchester County is developing a non-point source management plan that will include implementing best management practices for non-point source nitrogen control, monitoring their effectiveness and establishing a Westchester County management zone (or bubble) for assessing compliance with the nitrogen load freeze. The LISS will explore extending the bubble concept to other management zones throughout Connecticut and New York state portions of the Long Island Sound drainage.	C	NYSDEC Westchester County EPA	1993 - 1996	$500,000 one time cost	Behind Schedule	The first year of a 3 year effort of sampling has been completed in 1997 in the $370,000 project by Manhattan College to analyze nutrient and pathogen loads from the Mamaroneck River and Blind Brook. The work will better identify baseline and storm water non-point source loads that can be managed under the Westchester County management zone "bubble". Watershed planning is being initiated in Nassau and Suffolk counties to address local water quality concerns as well as nitrogen loads from these zones. In Nassau county, inter-municipal confederations of watershed communities around Hempstead Harbor and Manhasset Bay have been formed to control and abate non-point pollution in their respective waterbodies.	Sampling will continue for two more years. NYSDEC may provide funding to Suffolk County to coordinate watershed planning effort. The Hempstead Harbor Protection Committee will release its Water Quality Improvement Plan on 31 May 1998.
H2-9.Westchester County will implement the recommendations of the County Executive's Citizens Committee on Non-point Source Pollution in Long Island Sound.	C	Westchester County, Local Government	1993 initiation and continuing	$200,000/year for the first 3 years $600,000 for implementation	Substantive Progress	The Westchester County Department of Environmental Planning is coordinating establishment of six Watershed Advisory Committees (WACs) for subwatersheds within its LIS management area. WACs #3 and #5 have completed plans. $300,000 from NRCS is being used to support stream bank stabilization and storm water detention projects. Copies of reports for completed WACs are currently available.	Work will begin shortly on WAC #4.
H2-10.Point and non-point nitrogen load estimates will be made in the City of Stamford to assess feasibility of a point/non-point source *trading* program. A cost-effective mix of management options will be proposed that may be used to help decide how nitrogen reduction targets can be met once they are established.	C	CTDEP City of Stamford	1992-1994	$97,000 in EPA funds, 239,182 in match from Stamford and CH2MHill	Complete	Report completed by CH2M-Hill, the City of Stamford, and New England Interstate Water Pollution Control Commission. The information is being used to develop cost estimates for point source controls and to assess feasibility of non-point source management	None
H2-11.New York state will pursue the expansion of the State Building Code to include provisions for erosion and sediment control and storm water practices for all construction activities in order to prevent increases in non-point nitrogen runoff.	C	NYSDEC NYSDOS	1993-1994	Redirection of base program	Behind Schedule	A legislative proposal to change the Building Code has been developed by NYSDEC.	The proposal will not be heard during the 1998 legislature. NYSDEC will try to address this through its storm water provisions.

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2. REDUCING NITROGEN LOADS FROM NON-POINT SOURCES (CCMP TABLE 5, P.34)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
H2-12.Provide technical assistance to coastal municipalities to address impacts of hypoxia in their municipal regulations and plans of development, as required by law.	C	CTDEP	1993 and continuing	Redirection of base program	Substantive Progress	Public Act 91-170 mandated that coastal municipal regulations and plans of development be established with regard to non-point source and potential pollution of coastal waters with specific reference to hypoxia, toxic contamination, pathogens, and floatable debris. A municipal best management practices manual was completed and outreach workshops were held in June, 1996. No additional workshops are planned.	A slide show of the manual has been prepared and is being used for coastal municipal outreach programs.
H2-13.Advocate the use of the June nitrate test on agricultural lands to ensure that fertilizer applications to crops do not exceed crop needs.	C	CTDEP NYSDEC	1993 and continuing	Redirection of base program	Partial Progress	The June nitrate test has been found to effectively reduce the amount of nitrogenous fertilizers used on agricultural lands without affecting crop yield. The Housatonic Hydrologic Project, and projects for the Scantic River and Quinnipiac River involve June nitrate testing.	CTDEP, NRCS, CT Cooperative Extension, and Soil and Water Conservation Districts will continue to advocate its use.
H2-14.In addition to continuing general storm water permitting programs, the state of New York should determine if the general permit adequately regulates nitrogen from activities subject to national storm water regulations.	R	NYSDEC		$50,000	Not Initiated	Funding and staffing limitations.	
H2-15.Explore the expansion of current requirements for federally licensed or permitted projects to obtain a water quality certification in New York to protect water quality from sources of pollution to include all projects adjacent to wetlands and other sensitive areas (e.g., adjacent to wetlands) or those that exceed a minimum size (e.g., greater than one acre).	R	NYSDEC	1994-1995	$50,000	Not Initiated	Funding and staffing limitations.	
H2-16.The states of Connecticut and New York should develop a habitat restoration plan that includes a list of potential project sites and priorities. Wetland projects that are in close proximity to priority nitrogen management areas should be highlighted.	R	CTDEP NYSDEC NYSDOS	1996-1998	$300,000 to develop plan	Complete	See Living Resources and Habitat section (Action L1-13.)	
H2-17.Evaluate Maryland's *Critical Areas* regulations and the reported nutrient reduction benefits and make recommendations of the potential value of a similar program for Long Island Sound.	R	LISS	1993-1995	$50,000.	Not Initiated	Funding and staffing limitations.	

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3. CONTINUING MANAGEMENT OF HYPOXIA (CCMP TABLE 6, P. 39)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
H3-1.The LISS will complete work on the LIS 3.0 model and the necessary management scenario projection runs.	C	LISS	Complete by June 1994	LISS Funded	Complete	Management scenarios were run in summer of 1996. Model reports are available. Model results were summarized for the September 1997 public meetings on the nitrogen reduction targets.	
H3-2.Develop LIS 3.0-based dissolved oxygen targets and nitrogen load reduction targets for each management zone.	C	LISS	Propose by December 1994	Redirection of base program	Complete	The LISS proposed the nitrogen reduction targets in February 1997 and approved them after soliciting public comment in February 1998.	
H3-3.Establish a firm timetable for achieving, within 15 years, the load reduction targets by zone, with progress measured in five year increments.	C	CTDEP NYSDEC	Propose by December 1994	Redirection of base program	Complete	The nitrogen reduction targets include a 15-year reduction schedule for both point and non-point sources, after providing for time to develop management zone plans and make permit modifications.	A TMDL is to be released for comment by August 1998.
H3-4.Develop zone-by-zone plans to achieve the nitrogen load reduction targets.	R	CTDEP NYSDEC Local and County Governments	1995-1997	$1 million committed for three New York zones; $700,000 per year for three years needed	Behind Schedule	NYSDEC and CTDEP will use the information and nitrogen targets established by the LISS to work with municipalities and develop zone-by-zone plans by August 1999.	
H3-5.Encourage and support development of innovative, cost-effective technologies to reduce point and non-point sources of nitrogen.	R	LISS	Ongoing	LISO Base Program	Partial Progress	NEIWPCC sponsored a workshop in September 1996 on options and optimizing techniques for BNR technologies. NYSDEC sponsored four workshops in 1997 on the same topic. EPA , NRCS, and CTDEP sponsored a workshop in November 1997 on emerging, innovative technologies for storm water treatment. In addition, the Norwalk River Watershed Initiative and projects funded under the 319 program are testing new approaches and technologies for storm water treatment.	
H3-6.Periodically recalibrate LIS 3.0 to reflect the changing conditions of the Sound and use it to explain these changing conditions and to evaluate proposals to modify the management plan, as necessary.	R	LISS	As Needed	$300,000 per recalibration	Not Initiated	The LISS will evaluate the long term utility of LIS 3.0 versus the systemwide eutrophication model under development by the NYCDEP before pursuing recalibration.	

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4. FUNDING TO IMPLEMENT HYPOXIA MANAGEMENT PLANS (CCMP TABLE 7, P. 41)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
H4-1.Increase funding of the Connecticut and New York State Revolving Fund Programs to meet statewide wastewater control needs, including Long Island Sound nitrogen control needs.	R	Congress Connecticut New York	Over 20 years	Federal cost of $700 million per year. Cost to states of $175 million per year.	Partial Progress	In the past year, CT committed $250 million for sewage treatment plant reconstruction projects that will benefit LIS and estimates that Clean Water Funding, if maintained at current levels, will be adequate to finance Phase III upgrade requirements. In New York, SRF amounts are: FFY 98 178.3 Million FFY 97 82.5 Million FFY 96 92.6 Million	
H4-2.Appropriate $50 million to fund a *Long Island Sound Challenge Grant Program*, a significant portion of which would be used to ensure that the Phase III nitrogen control efforts get off to a fast start with full local government cooperation.	R	Congress	Over five years	$50 million	Partial Progress	Legislative proposals have been introduced into Congress that would fund implementation of the LISS. The Long Island Sound Restoration Act was reintroduced in FY1997 and 1998.	
H4-3.Fully fund the non-point source control programs under Section 319 of the Clean Water Act and Section 6217 of the Coastal Zone Act Reauthorization Amendments to support additional non-point source management activities.	R	Congress	Ongoing	319 - $130 million nationwide 6217 - $12 million nationwide	Partial Progress	Section 319 was funded at $105 million for FY 1998. As part of the Clean Water Action Plan, the administration has proposed FY 1999 funding of $200 million.	The LISS, through its citizen participants, will advocate for increased funding under section 319.

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5. MONITORING AND ASSESSMENT OF HYPOXIA (CCMP TABLE 8, P. 42)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
H5-1.The states of Connecticut and New York, New York City, and the Interstate Sanitation Commission will monitor dissolved oxygen and nutrients in Long Island Sound, its major tributaries, and key sewage treatment plants.	C	CTDEP NYSDEC NYCDEP ISC	1994	$340,000	Complete	Monitoring was performed as planned and the results summarized by each agency.	None
H5-2.Develop a coordinated monitoring plan to assess the effectiveness of implementation, considering innovative approaches and building upon existing programs.	C	LISS	Completed in early 1994	$25,000	Complete	A LISS monitoring workshop was held in 1993. The workshop integrated findings of the LISS to develop a comprehensive, Sound wide monitoring plan. Portions of the plan are being implemented.	The continued effectiveness of the monitoring programs should be evaluated with a consideration of new technologies/approaches.
H5-3.As part of a combined National Estuary Program Action Plan Demonstration Project and a CTDEP Long Island Sound Research Fund project, the EPA and the state of Connecticut will complete a demonstration project designed to evaluate and quantify the benefits of a riparian zone in the denitrification process.	C	CTDEP	1992-1994	$100,000 for Phase I	Complete	Non-point source management is a difficult and poorly understood process for nitrogen control. This project will help quantify the benefits of vegetated riparian zones in nitrogen removal. Report on the first two years is completed. Monitoring at the site was completed in June 1997.	A final report is available. Interested parties should contact CT-DEP's Office of Long Island Sound Programs at (860) 424-3034.
H5-4.The state of Connecticut, through its Long Island Sound Research Program, has solicited proposals to identify the role of riverine transport in attenuating the load of nitrogen delivered to the Sound in the Housatonic or Naugatuck Rivers. If an acceptable proposal is identified, it will be a priority for funding in 1994.	C	CTDEP	1993-1995	$150,000	Partially addressed	CTDEP was not successful in funding a comprehensive project to study a watershed in detail through the Long Island Sound Research Fund. Some projects are looking at portions of the problem. CTDEP hired a consultant using federal 104(b) funds to develop a comprehensive watershed model for the state. The project began in early 1997.	 Continue development of the watershed model.
H5-5.The state of Connecticut, through its Long Island Sound Research Program, will continue to fund atmospheric deposition monitoring of nitrogen a two coastal locations through May, 1994.	C	CTDEP	1991-1994	$50,000 per year	Complete	Report for two years of atmospheric wet and dry deposition monitoring has been accepted by CTDEP. CT has continued the project and enhanced monitoring in 1997.	Monitoring is continuing through 1998.
H5-6.The EPA Office of Research and Development will continue to develop regional dissolved oxygen criteria for marine and estuarine waters.	C	EPA	Complete 1994	Redirection of base program	Behind Schedule	EPA's Office of Research and Development has submitted a draft to the EPA Office of Water, who will submit the work for peer review.	The proposed criteria is expected to be released for public comment in 1998.
H5-7.The NYSDEC will complete its initial study on the effects of hypoxia and disease on Long Island Sound lobsters.	C	NYSDEC	1994	LISS Funded	Complete	A report is available from the EPA LIS Office or from the NYSDEC Division of Marine Resources.	

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5. MONITORING AND ASSESSMENT OF HYPOXIA (CCMP TABLE 8, P. 42)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
H5-8.Continue long-term dissolved oxygen and nutrient monitoring of the Sound, its major tributaries, and key sewage treatment plants.	R	CTDEP NYSDEC ISC EPA NYCDEP	Continuing	$300,000 per year	Substantive Progress	Ambient monitoring was continued in 1997. CTDEP funds the USGS to monitor tributaries and both NYSDEC and CTDEP have expanded monitoring requirements for point source discharges. The ISC and NYCDEP also perform ambient monitoring of LIS. The Westchester County Department of Planning received a $370,000 grant from the NYS DEC to conduct water quality monitoring on Mamaroneck River and Blind Brook over a three year period starting in 1997. To date one year of sampling has been completed on Blind Brook and Mamaroneck River. An annual report is being prepared. The project will be reviewed and goals evaluated. After 18 months of sampling is completed two new tributaries may be selected for the second half of the project. The monitoring is being performed by Manhattan College. Dissolved oxygen and nutrients are among the parameters being monitored.	Monitoring has been funded for 1998.
H5-9.Continue to monitor finfish and crustaceans of the Sound with emphasis on determining population response to low dissolved oxygen.	R	CTDEP	Continuing		Substantive Progress	Special studies to identify hypoxic impacts on fish distribution are completed and reports are available from CTDEP Marine Fisheries. See Living Marine Resources and Habitat (Action L9-1.)	CTDEP continues to monitor finfish and lobster resources, but the studies are analyzed now to manage the state of fish and lobster resource stocks in light of DO's role.
H5-10.Continue to monitor the effects of hypoxia on disease of lobsters.	R	NYSDEC	Continuing	$65,000	Discontinued	See Living Marine Resources and Habitat (Action L9-8.)	

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SUMMARY OF MANAGEMENT ACTIONS: PATHOGEN CONTAMINATION

1. CONTROLLING PATHOGEN CONTAMINATION FROM COMBINED SEWER OVERFLOWS (CCMP TABLE 31, P. 83)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
P1-1.Continue CSO implementation and update overall management plans to assure implementation addresses bathing beach and shellfish closures and is consistent with water quality standards.	CTDEP NYSDEC	Substantive Progress	CTDEP is working to abate CSOs with a focus on coastal cities of New Haven, Bridgeport, and Norwalk. Over the next 15 years, $560 M will be expended on statewide CSO abatement. New York City, as per a 1992 consent order with NYSDEC, has begun implementation of a comprehensive CSO abatement program, scheduled for completion between 2001 and 2006 and an estimated cost of $1.5 billion. NYC continues to meet the nine minimum control measures established in EPA CSO policy.	

2. CONTROLLING PATHOGEN CONTAMINATION FROM NONPOINT SOURCES (CCMP TABLE 32, P. 84)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
P2-1.Implement the state nonpoint source management initiatives supported from Section 319 funding	CTDEP NYSDEC EPA	Partial Progress	See Section 319 Nonpoint Source control efforts in items H2-1, H2-6 under the Hypoxia section.	
P2-2.Develop state coastal nonpoint source control programs, as per Section 6217 of the Coastal Zone Management Act to address the nonpoint source pathogen load from the LIS coastal zone.	CTDEP NYSDOS NOAA EPA	Fully Met	See Coastal Nonpoint Source control description in item H2-2, under the Hypoxia section.	
P2-3.Implement general storm water permit programs to control the discharge of storm water from industrial, construction, and municipal activities, as per EPA regulations.	CTDEP NYSDEC EPA	Substantive Progress	See general storm water permit program description in item H2-3, under the Hypoxia section.	
P2-4.Provide technical assistance to coastal municipalities to address impacts of pathogens in their municipal regulations and plans of development, as required by state law.	CTDEP NYSDEC	Partial Progress	CTDEP has met with coastal communities regarding PA 91-170 requiring municipalities to consider pathogens in their plans of development. See also item H2-12, under the Hypoxia section. NYSDEC staff serve in an ex-officio, advisory capacity for the Hempstead Harbor and Manhasset Bay Protection Committees.	CTDEP and NYSDEC staff are available for continuing consultation with municipalities.

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2. CONTROLLING PATHOGEN CONTAMINATION FROM NONPOINT SOURCES (CCMP TABLE 32, P. 84)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
P2-5.Pursue changes of the State Building Code to include provisions for storm water management.	C	NYSDEC NYSDOS	1994/1995	Redirection of base program	Behind Schedule	A legislative proposal has been prepared.	The proposal has been tabled for the 1998 legislative session.
P2-6.Initiate a pilot program to control storm water discharges using enforceable instruments (i.e., permits or consent agreements). Connecticut and New York will evaluate the effectiveness of the pilot program for more widespread implementation.	C	NYSDEC	Ongoing/ Continuous	$100,000	Not Initiated	NYSDEC is awaiting EPA's promulgation of Phase II Storm water Rule.	EPA will publish Phase II regulations for smaller cities and construction sites in 1999.
P2-7.Expand current requirements for federally licensed or permitted projects to obtain a water quality certification to include all projects in sensitive areas or where a contaminant or parameter is found to exist at or exceeding a threshold value.	R	NYSDEC	1994/1995	See Hypoxia	Not Initiated	See Hypoxia action H2-15.	

3. CONTROLLING PATHOGEN CONTAMINATION FROM SEWAGE TREATMENT PLANTS (CCMP TABLE 33, P. 85)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
P3-1.Minimize malfunctions of treatment systems and eliminate dry weather overflows and illegal hookups to storm sewers through aggressive management programs. Ensure prompt notification and response and take quick enforcement action.	CTDEP NYSDEC	Substantive Progress	New York City has greatly reduced dry weather overflows (from 1-2% to 0.02% of flow) by reducing illegal connections and replacing obsolete regulators.	
P3-2.Identify and take priority enforcement actions to control wet weather overflows from sewers caused by excessive infiltration and inflow.	CTDEP NYSDEC	Partial Progress	Infiltration and inflow to sanitary sewers in Westchester County remain a problem.	

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3. CONTROLLING PATHOGEN CONTAMINATION FROM SEWAGE TREATMENT PLANTS (CCMP TABLE 33, P. 85)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
P3-3.Implement a beach and shellfish closure action plan to take immediate corrective and priority enforcement actions addressing improperly treated municipal discharges. Preventable incidents involving beaches and shellfish areas will be emphasized.	C	CTDEP NYSDEC EPA	Ongoing/ Continuous	Redirection of base program	Partial Progress	CTDEP continues to work cooperatively with the CT Dept. Of Agriculture's Aquaculture Division and municipalities to address pathogen problems that result in beach or shellfish bed closures as they occur. There were highly publicized sewage spills in 1997 that resulted in closed beaches. Repairs have been made to the New York treatment plant where spills have occurred. A Multi-State committee has been formed to study the 1997 Sewage spills.	A predictive model of the impact of sewage spills on pathogens is under development for the 1998 beach season to assess risks and guide the closure of beaches and shellfish beds. It will be used as part of a multi-state sewage spill notification protocol that is being developed.

4. CONTROLLING PATHOGEN CONTAMINATION FROM VESSEL DISCHARGES (CCMP TABLE 34, P. 86)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
P4-1.During the permitting process, minimize the impacts of boat dockage facilities and temporary live-aboard anchorages by considering their proximity to productive and certified shellfish waters, existing boat channels, wetlands, and critical habitat areas, and tidal flushing.	CTDEP NYSDEC NYSDOS	Substantive Progress	Aspects of marine sanitation and pumpout installation are considered for each coastal structures permit. CT Department of Agriculture/Bureau of Aquaculture regularly assesses shellfish beds and impacts from area marinas, etc. and makes recommendations for corrective actions and improvements when warranted. NYS has recognized several embayments on Long Island Sound as No-Discharge Zones. In addition, local communities have the option to develop legislation to reduce pathogen loadings in their waterways (e.g., prohibitions against overnight moorings, limiting numbers of boats in raft-ups, etc.). In its Tidal Wetlands Permitting Program, NYSDEC generally includes installation of a marine pumpout station as a condition for marina expansion or as a term of an order of consent for a violation.	
P4-2.Consider the impacts of vessel discharges through appropriate resource management and recovery programs and limit or condition the siting or operation of boating facilities as necessary to minimize such impacts.	CTDEP NYSDEC	Fully Met	These factors are considered for each marina expansion and new marina as part of the structures permitting program.	

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4. CONTROLLING PATHOGEN CONTAMINATION FROM VESSEL DISCHARGES (CCMP TABLE 34, P. 86)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
P4-3.New York and Connecticut will apply to the EPA to create vessel *No Discharge* areas in specific embayments and harbors after ensuring the sufficient availability of pump-out stations and treatment facilities.	C	CTDEP NYSDEC EPA Municipalities	Ongoing/ Continuous	Redirection of base program	Substantive Progress	CTDEP is continuing efforts to install and operate pump-out facilities using Clean Vessel Act (CVA) funds. By the end of 1997, 20 more pumpout facilities exist than in 1993 when the federally approved "Plan for Constructing Pumpout Stations..." was prepared. Eight of these facilities have been funded with CVA funds. Currently there are four facilities with O&M grants. CTDEP is encouraging municipalities and non-profits to operate pumpout boats. We currently have two applications and one additional boat application is anticipated in the near future. On November 4, 1997, the EPA approved the NYSDEC application to designate the waters of Mamaroneck Harbor a No Discharge Zone.	CTDEP will continue to evaluate the success of the CVA program and will make application to EPA for no-discharge areas when the criteria are met.
P4-4.New York state has identified Huntington and Lloyd Harbors as areas requiring additional protection and the EPA has Public Noticed its tentative determination that there are adequate pump-out facilities in these areas.	C	NYSDEC EPA	1993/1994	Redirection of base program	Complete	Huntington and Lloyd Harbors have been designated as vessel no-discharge areas.	
P4-5.Connecticut, through a 319 grant, will ensure completion of a marina and mooring area water quality assessment guidance document. Connecticut has also completed a marinas *best management practices* project report for nonpoint sources of pollution, which may be used to develop requirements for use of certain best management practices at marinas. New York state will review these documents for potential incorporation into state management programs.	C	CTDEP NYSDEC	Ongoing/ Continuous	Redirection of base program	Complete	Both documents have been completed, the Best Management Practices manual in 1992 and the Marina Water Quality Assessments document in 1993. NYSDEC developed and distributed a marina best management practices guide in March 1996.	Use guidance for technical outreach to marinas and coastal municipalities and to establish some permit conditions.
P4-6. Complete regulations to require pump-out facilities as required by, and in accordance with, state law.	C	CTDEP	Ongoing/ Continuous	Redirection of base program	Partial Progress	Regulations have been nearly finalized over the last three years, but progress has stalled and they have yet to go to public hearing.	Hold public hearing and adopt regulations
P4-7.The states of Connecticut and New York have received funding from the Federal Clean Vessel Act to conduct a pump-out needs survey, determine the effectiveness of existing facilities,	C	CTDEP NYSDEC	Initiated 1993/ Completion	$ 3,468,000 for NY $ 1,697,000 for	Substantive Progress	NYSDEC has produced a report evaluating the impacts of marine sanitation device (MSD) chemicals on the marine environment and sewage treatment systems in September 1995. A No	Install 10-20 new pumpout facilities including up to 5 boats, provide O&M funding for up to 40

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Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

4. CONTROLLING PATHOGEN CONTAMINATION FROM VESSEL DISCHARGES (CCMP TABLE 34, P. 86)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
develop and implement plans for construction of additional pump-out stations by marinas and prepare education/information plans.			1999	CT		discharge zone status has been declared for: Loyd/ Huntington, Mamaroneck, and Port Jefferson Harbors. There are 35 Marine Pumpout stations in NY waters on LIS and its tributaries. CTDEP has received a total of $1,111,200 for 1993-1996. Remaining funds (approximately $800,000) have been extended through 11/30/99. Grant agreement committing an additional $586,000 anticipated soon.	facilities and provide education and outreach to boaters and marina operators.
P4-8.Collect information on sewage discharge controls in Long Island Sound, disinfection chemicals used, boater education and sewage treatment plant acceptance of pump-out wastes. Evaluate availability of treatment capacity for pump-out wastes and secure commitments from municipalities to accept these wastes.	C	NYSDEC Municipalities	Initiated 1994/ completion 1994	$42,000.	Complete	A survey was conducted on marine sanitation device (MSD) holding tanks to help implement vessel discharge controls in Long Island Sound. The report documented that acceptance of waste from MSDs by STPs poses no threat to their operation and should therefore be encouraged.	

5. CONTROLLING PATHOGEN CONTAMINATION FROM INDIVIDUAL ON-SITE SYSTEMS/DISCHARGES (CCMP TABLE 35, P. 87)

Ongoing Program	Responsible Parties	Status[2]	Description	Upcoming Action
P5-1.Connecticut and New York are coordinating management actions with local governments when on-site septic systems are found to be failing and impacting shellfish growing areas and bathing beaches.	CTDEP, NYSDEC, local municipalities and health agencies.	Fully Met	In Connecticut, the combined efforts of Department of Agriculture/Bureau of Aquaculture, local officials, and Department of Health address these problems as they are uncovered. NYSDEC reports any discoveries of failing septic systems to the appropriate county health department.	

5. CONTROLLING PATHOGEN CONTAMINATION FROM INDIVIDUAL ON-SITE SYSTEMS/DISCHARGES (CCMP TABLE 35, P. 87)

KEY

1)Type: (O)n Going, (C)commitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
P5-2.Continue and enhance management actions with local governments when on-site septic systems are found to be failing and impacting shellfish growing areas and bathing beaches.	R	CTDEP NYSDEC Local municipalities and health agencies to administer the program. Repairing or upgrading the systems will be at property owner expense.	Ongoing/ Continuous	Redirection of base program. Enhancement costs: $100,000 to increase staff; $60,000 for administrative costs per year per state.	Partial Progress	As described in an earlier action, CTDEP works with the Dept. Of Agriculture's Bureau of Aquaculture and municipalities to address shellfish and beach closure problems as they occur. Solutions are varied and may warrant septic system corrections or sewering of areas. NYSDEC has worked with the Town of Huntington and Cooperative Extension Marine Program to identify specific nonpoint source problems in Centerport Harbor. At the end of 1995, a total of 90 acres of shellfish bed in Centerport Harbor became seasonally certified.	Continue cooperative efforts.
P5-3.Evaluate existing septic system controls (including system monitoring, required maintenance and repair and replacement of failing systems) to determine if they are sufficient to protect coastal ecosystems and recommend changes to local governments.	R	NYSDEC	Continuous based upon availability of funding	$120,000 to increase staff; $200,000 for field and laboratory expenses; $30,000 for administrative costs.	Not Initiated	Funding and staffing limitations.	

6. CONTROLLING PATHOGEN CONTAMINATION THROUGH PUBLIC EDUCATION (CCMP TABLE 36, P. 88)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
P6-1.Develop and implement a public education plan, targeting specific audiences, in cooperation with federal, state and local public outreach experts and environmental education.	R	LISS Management Conference	Upon available funding	$20,000; See Public Involvement and Education	Partial Progress	Actions include development and distribution of Boat Pumpout brochures, the LISS Fact Sheet # 13 entitled "The Impact of Septic Systems on the Environment", and the Oyster Bay program for 4th graders entitled, "Don't feed the quackers crackers."	

KEY

1)Type: (O)n Going, (C)commitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

7. MONITORING AND ASSESSMENT OF PATHOGENS (CCMP TABLE 37, P. 89)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
P7-1.Review existing data and reports and the recommendations of the Monitoring Workshop to identify shellfishing or bathing area in need of further assessment.	CTDEP, CTDA/BA NYSDEC municipalities	Partial Progress	CTDEP works closely with the CTDA/BA, the CTDOH, and local health authorities for monitoring and abatement. NYSDEC works closely with NYSDOH and local health authorities for monitoring and abatement, and performs in-house analyses for pathogens at shellfish beds.	
P7-2.Perform bacterial surveys of harbors and embayments to identify contaminated shellfish areas and potential sources of pathogens as required by the National Shellfish Sanitation Program.	CTDA/BA NYSDEC	Fully Met	Surveys are regularly conducted by the CTDA/BA and regulatory actions are taken based on the data. NYSDEC conducts routine water quality studies to evaluate the sanitary conditions of shellfish growing areas and determine compliance with NY state and national Shellfish Sanitation Program criteria.	
P7-3.Use seasonal or conditional certification of shellfish harvest areas, as may be warranted by water quality variations, under guidelines provided by the National Shellfish Sanitation Program.	CTDA/BA NYSDEC	Partial Progress	In CT and NY, some coastal areas use seasonal restrictions or conditional closures based on rainfall. NYSDEC conducts water quality studies of seasonally and conditionally certified harvest areas. Currently, the National Shellfish Sanitation Program requirement to sample all such areas once/month when open are not being met.	
P7-4.Meet annually with health directors of coastal municipalities to refine monitoring and bathing beach closure protocols and share information	CTDEP NYSDEC	Fully Met	CTDEP continues to meet annually with CTDOH and municipalities	

7. MONITORING AND ASSESSMENT OF PATHOGENS (CCMP TABLE 37, P. 89)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
P7-5.Evaluate existing monitoring programs and, as necessary, make recommendations for enhancements.	C	LISS CTDEP NYSDEC	Initiated 1993/ Completion 1994	Base program redirection	Partial Progress	CTDEP meets annually with the CTDOHS and the coastal municipalities to review the latest information on beach monitoring methods and closure criteria. NYSDEC is currently not meeting some of the minimum requirements of the National Shellfish Sanitation Program, especially for seasonally and conditionally certified waters.	Continue to meet annually and address problems as they arise
P7-6.Conduct a workshop to determine appropriate and consistent methods for bathing beach monitoring and laboratory analysis and	R	LISS Management	Upon availability	$5,000	Not Initiated		

KEY

1)Type: (O)n Going, (C)commitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

7. MONITORING AND ASSESSMENT OF PATHOGENS (CCMP TABLE 37, P. 89)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
work to adopt, if feasible, common methods.		Conference	of funding				
P7-7.Implement the recommendations of the LISS Monitoring Plan to enhance pathogen monitoring.	R	CTDEP NYSDEC	Upon availability of funding	$10,000	Partial Progress	CTDEP and the CT Dept. Of Agriculture's Bureau of Aquaculture, as well as municipal health departments are meeting recommendations for the minimalist program. NYSDEC is not meeting the minimum requirements of guidelines set by the National Shellfish Sanitation Program.	Continue monitoring efforts.
P7-8.Develop and conduct a dry and wet weather sampling program for specific drainage basins. Both states will evaluate this pilot program for possible expansion.	R	CTDEP NYSDEC	Upon availability of funding.	$250,000	Not Initiated	CTDEP is involved in funding two projects that meet some of these needs. The USGS is conducting wet and dry weather sampling on Sasco Brook and UCONN researchers are conducting sampling as part of a National Monitoring Project in Waterford.	Similar monitoring efforts in new watershed projects such as the Norwalk River should enhance understanding.
P7-9.Assess the impacts of identified point and nonpoint sources and assign priorities to areas where management actions are most likely to be beneficial. Priority criteria will include viability of the resource, feasibility and cost-effectiveness of management. Enhance state bacterial surveys of harbors and embayments to identify contaminated shellfish areas and potential sources of pathogens.	R	CTDEP CT Dept. Of Agriculture/ Aquaculture Division NYSDEC	Upon availability of funding	$150,000 per year for each state	Not Initiated		
P7-10.Support the efforts to develop a better understanding of the relationship between pathogen indicators and the risk to public health such as the National Indicator Study.	R	LISS Management Conference		Not estimated	Not Initiated	The National Indicator Study is no longer funded by the Federal Department of Agriculture or the Interstate Shellfish Sanitation Commission.	
P7-11.Along with supporting the National Indicator Study, investigate funding for a regional epidemiological survey to determine the relationship between waters of varying indicator quality and public health.	R	CTDEP NYSDEC EPA State and local health departments	Upon availability of funding	$500,000	Not Initiated	Funding and staffing limitations	

KEY

1)Type: (O)n Going, (C)commitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

1. TOXIC CONTAMINANT SOURCE CONTROLS AND POLLUTION PREVENTION (CCMP TABLE 21, P. 65)

Ongoing Program	Responsible Parties	Status[2]	Description	Upcoming Action
T1-1.The states of Connecticut and New York and the Army Corps of Engineers will continue to regulate dredging and the disposal of dredged sediments through the existing permit programs.	CTDEP NYSDEC NYSDOS NYSDOH ACOE EPA	Fully Met	The states of Connecticut and New York continue to regulate and enforce dredging activities. Conflicts have arisen on the disposal of dredged material and the interpretation of data on possible effects. In response to these conflicts, CTDEP with LISS funding, has hired a consultant to obtain background information necessary to update the LIS Dredged Sediment Management Plan. Draft reports on current regulatory requirements, disposal alternatives, and research needs have been drafted. A citizen sediment focus group has been formed to assist in the development of the reports.	The draft reports will be released for public comments in 1998. LISS funding has been provided to update the LIS Dredged Sediment Management Plan in two years (1999).
T1-2.The states of Connecticut and New York and the EPA will continue their pretreatment programs to ensure that toxic discharges to sewage treatment plants are controlled. The states of Connecticut and New York, through their Pollution Discharge Elimination System Programs, will continue to ensure that facilities comply with their permit limits.	CTDEP NYSDEC EPA	Substantive Progress		
T1-3.The states of Connecticut and New York and the EPA will apply pollution-prevention techniques, as appropriate, to both direct and indirect discharges of toxic substances by emphasizing wastewater minimization, recycling of wastewater, and alternative processes and chemicals to reduce toxicity and toxics loads and to minimize effects on all environmental media.	CTDEP NYSDEC EPA	Partial Progress	Connecticut's policy is embodied in state legislation (P.A. 91-376). CTDEP published its Pollution Prevention Plan in October 1996, targeting consumers, industry, and government to control targeted substances. A special section on nonpoint source runoff to LIS highlights these needs.	
T1-4.The states of Connecticut and New York will review municipal and industrial discharge permits to surface waters to reduce the allowable concentrations of toxic pollutants from the previous permitted values.	CTDEP NYSDEC EPA	Partial Progress		

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

1. TOXIC CONTAMINANT SOURCE CONTROLS AND POLLUTION PREVENTION (CCMP TABLE 21, P. 65)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
T1-5.The LISS will encourage adequate funding to continue and expand pollution prevention site visit programs targeting industrial dischargers to the Sound and its tributaries.	C	LISS	Initiated 1993/ Continuing	Minimal staff time	Complete	The LISS applied for and received $105,000 in special EPA funds during FY94 to enhance pollution prevention efforts in Connecticut. EPA awarded the grant to the Connecticut Hazardous Waste Management Service's Technical Assistance Program (ConnTAP) to target its existing pollution prevention site visit program at industries with direct and indirect wastewater discharges to Long Island Sound and its tributaries. The $105.000 was combined with $148,500 from several other funding sources for a total of 253,500. ConTAP completed the project in June 1997 and submitted a final report in January 1998. ConnTAP conducted 147 site assessments between June 1992 and June 1997 at manufacturing facilities with wastewater discharges to Long Island Sound or its tributaries, primarily the Quinnipiac and Naugatuck rivers.	ConnTAP issued a final report, available from the LISO upon request, in early 1998 that documents the project. ConTAP was eliminated from State budget effective July 1, 1997.
T1-6.As part of the NY-NJ Harbor Estuary Program, total maximum daily loads, wasteload allocations for point sources, and load allocations for nonpoint sources will be developed to ensure that water quality standards for mercury are met in the Harbor, the East River, and Long Island Sound.	C	HEP NJDEPE NYSDEC EPA	1994	Redirection of base program	Complete	TMDLs have been completed for lead, cadmium, copper, and zinc.	A mass-balance study is being conducted to confirm sources of lead.
T1-7.As part of the New York - New Jersey Harbor Estuary Program, the states of New York and New Jersey will establish water quality-based effluent limits for copper, mercury, and six other toxic metals, as necessary. Permits will be subsequently modified.	C	NJDEPE NYSDEC	Complete by 12/94	Redirection of base program	Complete	NYSDEC has modified NYC STP permit limits for metals.	
T1-8.Support education on the environmental impact of using home, garden, and commercial hazardous chemicals and pesticides and continue to provide guidance on how to minimize use of these chemicals and properly dispose of them through household hazardous waste collection.	R	LISS	Initiated 1993/ Continuing	$20,000. See Public Involvement and Education	Partial Progress	A Sound Gardening Demonstration Project in Oyster Bay was funded using NYSDEC 319 funds. NY Sea Grant has prepared a clean water shopping guide to identify alternatives to hazardous household chemicals. The LISS has also prepared a Stewardship poster identifying environmentally friendly household practices.	FY 97-98 319 grant funds to CT are supporting an integrated pest/crop management (IPM/ICM) initiative in the Quinnipiac River basin.
T1-9.Evaluate mass loadings of toxic contaminants and determine their relationship to	R	LISS CTDEP		$200,000 per	Not	Funding and staffing limitations.	

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

1. TOXIC CONTAMINANT SOURCE CONTROLS AND POLLUTION PREVENTION (CCMP TABLE 21, P. 65)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
ambient water and sediment quality.		NYSDEC		year	Initiated		
T1-10.Identify and assign priorities to toxic substances which should be banned from use and for which *virtual elimination of discharge* should be the goal.	R	LISS CTDEP NYSDEC		$200,000 per year	Not Initiated	Funding and staffing limitations.	

2. ADDRESSING SEDIMENT CONTAMINATION (CCMP TABLE 22, P. 67)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
T2-1.The LISS will review the National Oceanic and Atmospheric Administration (NOAA) 1991 sediment chemistry and toxicity survey results of harbors and embayments, when available in the Spring 1994.	C	LISS NOAA	Upon report completion	Existing staff to be used	Not Initiated	Funding and staffing limitations.	
T2-2.The LISS will provide a preliminary review of the data on sediment contamination on a site-by-site basis. State and federal experts will evaluate the problem at each site and recommend additional assessments needed to fully characterize the problem, ascertain the need for and feasibility of remediation and prepare a remediation plan.	C	LISS	Ongoing	Existing staff to be used	Not Initiated	Funding and staffing limitations.	
T2-3.The City of Glen Cove plus their Review Committee will evaluate the contamination of Glen Cove Creek.	C	NYSDEC City of Glen Cove	1994/1995	$250,000.	On Schedule	Dredging has started in the mouth and downstream portions of Glen Cove Creek.	
T2-4.The LISS will review and evaluate sediment remediation approaches developed in the Great Lakes ARCS Program and HEP.	C	LISS	1994/1995	Existing staff to be used	Not Initiated	Funding and staffing limitations.	
T2-5.Conduct further assessments and develop site plans addressing the feasibility, technical	R	LISS	Ongoing	$250,000 per harbor or	Not	Funding and staffing limitations.	

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

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Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

2. ADDRESSING SEDIMENT CONTAMINATION (CCMP TABLE 22, P. 67)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
approach, cost and value of conducting remediation activities for Black Rock Harbor and Glen Cove Creek, where data may be sufficient to conduct case study analyses. Recommend other harbors for characterization and feasibility studies to be conducted at a rate of two harbors per year.				$500,000 per year.	Initiated		

3. IMPROVING HUMAN HEALTH RISK MANAGEMENT (CCMP TABLE 23, P. 68)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
T3-1.The LISS will advocate the coordination between the states of Connecticut and New York to review health risk and advisory recommendations and formulate plans to ensure consistency.	C	LISS CTDEP CTDOHS NYSDEC NYSDOH	Initiated 1994/ Continuing	No Cost	Not Initiated	Funding and staffing limitations.	
T3-2.Develop strategies for controlling loadings of contaminants for which seafood consumption advisories have been issued.	R	LISS CTDEP NYSDEC		$150,000 per year.	Partially Addressed	CTDEP is using Long Island Sound Research Funds to support an evaluation of mercury sources and loadings to Long Island Sound and impacts on seafood species in the Sound.	Complete research
T3-3.Develop a strategy for identifying toxic substances of human health risk concern in Long Island Sound seafood species and tolerance levels for those substances.	R	LISS		$150,000 per year.	Not Initiated	Funding and staffing limitations.	

4. MONITORING AND ASSESSMENT OF TOXIC CONTAMINANTS (CCMP TABLE 24, P. 71)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

4. MONITORING AND ASSESSMENT OF TOXIC CONTAMINANTS (CCMP TABLE 24, P. 71)

T4-1.The mussel watch and benthic surveillance components of NOAA'a Status and Trends Program and the EPA's Environmental Monitoring and Assessment Program provide regular and systematic sampling of contaminant levels in the Sound.	NOAA EPA	Partial Progress	NOAA's Status and Trends Program has continued. However, new sampling under EPA's EMAP program has been scaled back. The program is now focusing on data analysis and environmental indicator development.

4. MONITORING AND ASSESSMENT OF TOXIC CONTAMINANTS (CCMP TABLE 24, P. 71)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
T4-2.A monitoring workshop was held to integrate findings of the LISS and develop a comprehensive, Soundwide monitoring plan for toxic substances.	C	LISS	Initiated 1993/ Completed 1994	$25,000	Complete	See Page M-2, Action M1-7.	
T4-3.Under the auspices of the New York- New Jersey Harbor Estuary Program (HEP), the U.S. Army Corps of Engineers has agreed to develop a work plan and budget to develop systemwide models for PCBs, mercury, and other toxic pollutants that will provide the technical foundation for comprehensive efforts to eliminate these contamination problems in the Sound-Harbor-Bight system. The Corps of Engineers and other participants have agreed to seek the funding necessary to complete these models. Special attention will be directed to fully account for nonpoint sources of mercury.	C	HEP USACOE	1994	Existing staff to be used			
T4-4.Monitoring initiatives will be coordinated with the EPA Regional - Environmental Monitoring and Assessment Program (R-EMAP) to further the understanding of sediment toxicity and benthic community structure gradients in western Long Island Sound.	C	CTDEP NYSDEC EPA	Field Work Initiated 1993/ Completed 1994	$200,000	Complete	The field work has been completed and a draft report issued in 10/96. The study was designed to test methods and to quantify toxic contaminant problems in western Long Island Sound using standard toxicity tests and community structure indicators.	Additional funding has been approved to continue and expand the program. Additional monitoring will be conducted.
T4-5.Conduct site-specific characterization surveys of water, sediment and biota in harbors where active sources of toxic substances are believed to persist at a rate of two harbors per year.	R	CTDEP NYSDEC		$200,000 per harbor; or $400,000 per year.	Not Initiated	Funding not identified.	
T4-6.Identify sources and sites of PCB loadings to the Sound ecosystem from in-Sound and NY-	R	CTDEP NYSDEC		$200,000 per	Not	Funding not identified.	

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

4. MONITORING AND ASSESSMENT OF TOXIC CONTAMINANTS (CCMP TABLE 24, P. 71)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
NJ Harbor Estuary sources. Focus on reducing and eliminating PCB loadings on a priority basis, concentrating on areas of know contamination such as Black Rock Harbor.		EPA		year	Initiated		
T4-7.Monitor contaminant levels in selected estuarine organisms to ascertain their effects on the biology of the species and their effects on the edibility of the species.	R	LISS CTDEP NYSDEC EPA NMFS USFWS		$300,000 per year	Not Initiated	CTDEP periodically assesses tissue contaminant levels for key seafood species.	Mercury study listed above.
T4-8.Implement the recommendations from the LISS Monitoring Plan to improve contaminant monitoring.	R	LISS		$15,000.	Not Initiated	Funding not identified.	

5. RESEARCH TO INVESTIGATE TOXIC CONTAMINATION (CCMP TABLE 25, P. 73)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
T5-1.The relationship between organism body burdens and their toxic response needs to be investigated as an important mechanism of toxic impact.	R	University Research		$250,000 per year	Not Initiated	Funding not identified.	
T5-2.Trophic level transfer and bioaccumulation effects of contaminants up the food chain need to be quantified to better manage both the aquatic community and human health risk.	R	University Research - State Health Risk Agencies		$500,000 per year	Not Initiated	Funding not identified.	
T5-3.While toxicity testing of sediments and waters is an efficient means of identifying toxicity problems, the relationship between toxicity and specific causative agents needs to be determined.	R	University Research/ Research Lab		$500,000 per year	Not Initiated	Funding not identified.	
T5-4.Evaluate the use of an ecological risk assessment approach, demonstrated in the LISS Black Rock Harbor Action Plan Demonstration	R	LISS CTDEP NYSDEC		$100,000	Not Initiated	Funding not identified.	

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

5. RESEARCH TO INVESTIGATE TOXIC CONTAMINATION (CCMP TABLE 25, P. 73)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
Project, for more widespread application to identify toxicity and its sources in embayments and harbors of the Sound.		EPA					
T5-5.Continue to monitor finfish and crustaceans of the Sound with emphasis on determining population response to low dissolved oxygen.	R	CTDEP	Continuing	See Living Marine Resources and Habitat			

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

SUMMARY OF MANAGEMENT ACTIONS: FLOATABLE DEBRIS

1. CONTROLLING FLOATABLE DEBRIS FROM CSOs AND STORMWATER SEWERS (CCMP TABLE 38, P. 96)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
F1-1.Continue implementation of long-term CSO abatement programs to manage or eliminate all CSO areas remaining in the Long Island Sound region.	CTDEP, NYSDEC, NYCDEP, and local municipalities	Substantive Progress	See CSO program description in item P1-1, under the Pathogens section.	
F1-2.Control discharge of stormwater from industrial, construction, and municipal activities in accordance with EPA's national program regulations.	EPA, NYSDEC, CTDEP, local municipalities	Partial Progress	CTDEP's three general stormwater permits for industrial, construction, and commercial activities address floatable debris and now have more than 1,500 registrants. The City of New Rochelle received a $29,000 grant to place a floatable debris collection boom at the mouth of Stevenson Brook. A program of regular street sweeping will be instituted along with a public education campaign. The grant has been executed and a 50% advance received by the City. The Village of Larchmont has received a $56,312 grant to place a floatable boom at the mouth of Pine Brook to collect debris and contain petroleum spills. A program of regular street sweeping and catch basin cleaning will be instituted, along with a public education campaign that includes stenciling catch basins. The Village of Mamaroneck received a $47,668 grant to place a debris collection device in the Mamaroneck River. A stormwater quality inlet will be installed to collect samples before and after the device to evaluate its effectiveness. In addition, street and catch basin cleaning will be increased and an anti-littering educational campaign will be implemented. The Town of Mamaroneck received a $35,000 grant to purchase a jet cleaner for the purpose of flushing debris out of the storm sewer system and into catch basins so it can be removed with a vacuum truck. A booklet, A Land Practice Guide for People Living and Working in the Long Island Sound Watershed, was published by the Town and Village of Mamaroneck and the Village of Larchmont. The Town of Eastchester has reconstructed eighteen catch basins with sediment traps and hoods on the outlets for Lake Innisfree (an impoundment along the Hutchinson River). A regular schedule of catch basin cleaning will be instituted and a floatable debris collection device has been placed across the river. An educational program will be instituted involving signs, meetings with neighborhood associations, and a program on environmental programs on a local government access T.V. station.	The scheduled completion date for the floatable debris collection boom at Stevenson Brook is 9/30/98. The Village of Larchmont will continue to operate the floatable debris boom. The grant to the Village of Mamaroneck is scheduled for completion by 5/31/98. The final task to be completed, retrofitting storm drain catch basins, is out for bid and expected to be started soon. See actions under item H2-6 for upcoming stormwater control activities.

KEY

1)Type: (O)ngoing Program, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued.

2. INCREASING FLOATABLE DEBRIS CLEANUP EFFORTS (CCMP TABLE 39, P. 99)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
F2-1.Continue to implement the *Pack It In/Pack It Out* anti-litter campaign.	CTDEP and the public	Fully Met	CTDEP's Parks Division sponsors the "Pack it in-Pack it out" anti-litter campaign, which has led to the elimination of all trash barrels at state parks, including state beaches, except at campground areas. A single trash collection site is provided, which includes a dumpster and marked recycling bins, for people who don't want to transport their trash home. The program has been very successful with no noticeable increase in litter at the parks and beaches.	
F2-2.The New York-New Jersey Harbor Estuary Program has developed detailed short- and long-term floatable debris action plans for the New York-New Jersey Harbor.	USACOE, NYSDEC, NYCDEP, NJDEPE, municipalities	Fully Met	The floatable debris action plan continues to be implemented.	
F2-3.National Beach Cleanup Program. As part of this program, annual cleanups of Long Island Sound shorelines have taken place since 1988. This program costs $10,000 per year per state to coordinate and support volunteer efforts.	NYSDEC, CT Sea Grant Program, American Littoral Society, Volunteers	Fully Met	In Connecticut, the cleanups are coordinated by CT Sea Grant. In New York, data on debris is compiled and stored by the American Littoral Society and NYSDEC. The beach cleanup includes land and underwater cleanups. In addition, various non-profit LIS groups have clean-ups on a regular basis with CTDEP assistance. 1997 NY LIS component received funding from LISS small grants program.	The next event is scheduled for September 1998.

2. INCREASING FLOATABLE DEBRIS CLEANUP EFFORTS (CCMP TABLE 39, P. 99)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
F2-4.Continue to implement *Clean Streets/Clean Beaches* anti-litter campaign.	C	Coalition of public and private groups in New York and New Jersey	This action was initiated in 1992 and is ongoing.	$100,000 grant from the EPA	Substantive Progress	NY Sea Grant developed stencils in English and Spanish with support from an EPA grant.	
F2-5.Conduct a demonstration project to encourage proper solid waste handling and recycling at five marinas.	C	NYSDEC	1991	$71,000 grant from the EPA	Completed	Actions include recycling of materials and disposal of used fishing gear.	
F2-6.Expand involvement in *Coastweeks* program to include a second beach cleanup in the spring, prior to the beach season.	R	LISS Management Conference		$20,000 per year	Not Initiated		
F2-7.Continue to coordinate volunteers to paint	R	New York Sea	Ongoing	$5,000. See	Fully Met	CTDEP has funded storm drain stenciling through	NY Sea Grant will

KEY

1)Type: (O)ngoing Program, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued.

2. INCREASING FLOATABLE DEBRIS CLEANUP EFFORTS (CCMP TABLE 39, P. 99)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
stenciled messages on storm drains, such as *Don't Dump - Drains to Long Island Sound.*		Grant Extension Program, LISS, Volunteers		Public Involvement and Education		Section 319 funding and the CT License Plate Fund. More than 6,000 storm drains have been stenciled. NY Sea Grant has distributed stencils as follows: 1994: 512 stencils to 11 groups; 1995: 124 stencils to 10 groups; 1996: 80 stencils to 6 groups; 1997: 553 stencils to 11 groups. This has resulted in more than 5,000 stormdrains being stenciled. Storm drain stenciling in Hempstead Harbor was funded through a LISS small grant for 1997.	continue the storm drain stenciling program. Westchester county is implementing a storm drain stenciling program as well.
F2-8.Maintain clean beaches and minimize resuspension of debris back into Long Island Sound waters by: - Cleaning beaches in the evening to prevent resuspension overnight. - Using solid waste receptacles with lids instead of the open mesh type. - Providing recycling containers in convenient locations. - Using environmentally responsible containers for food and beverages at concession stands.	R	State and local governments	Ongoing	Varies with facility.		Many of the actions listed are being undertaken at local beaches throughout Long Island.	Continue program
F2-9.Distribute a directory of volunteer groups in the Long Island Sound watershed that work on projects and activities to reduce marine debris.	R	LISS		See Public Involvement and Education	Not Initiated		
F2-10.Encourage the public and manufacturers to promote recycling, use less packaging, and substitute products made from degradable material whenever possible.	R		Ongoing			The CTDEP Solid Waste Management Plan and Pollution Prevention Plan both support these objectives.	
F2-11.Encourage marina operators to accept responsibility for litter control and recycling.	R	NYSDEC CTDEP	Ongoing			NYSDEC has developed a Marina Management Guide that addresses a number of issues, including floatable debris CTDEP, through a Section 319 project, has developed a Marina BMP manual to control many potential pollution problems including litter.	NYSDEC will use the Marina Management Guide in its Tidal Wetlands and Protection of Waters permitting operations.
F2-12.Require floatation materials that are		NYSDEC					

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2. INCREASING FLOATABLE DEBRIS CLEANUP EFFORTS (CCMP TABLE 39, P. 99)							
Action	**Type[1]**	**Responsible Parties**	**When**	**Estimated Cost**	**Status[2]**	**Description**	**Upcoming Action**
resistant to decomposition and fragmentation.	R	Local Municipals			Not Initiated		

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SUMMARY OF MANAGEMENT ACTIONS: LIVING RESOURCES AND THEIR HABITATS

1. RESTORATION AND ENHANCEMENT OF AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 40, P.107)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
L1-1.Connecticut, New York, and federal agencies will continue to pursue restoration of degraded habitat.	NYSDEC, NYSDOS, CTDEP, CTDOT, USFWS, USACE, USEPA	Substantive progress	In Connecticut, 15 coves and embayment/tidal wetland restoration projects have been completed and over 20 are in various stages of implementation (e.g. preliminary engineering, final design, and contractor design for implementation). Four dune restoration projects were funded through the LIS License Plate fund. Several anadromous finfish projects have been completed with additional ones in the planning phase. In 1997 EPA awarded CTDEP $91,000 and NYSDEC $31,000 to support six habitat restoration projects identified in the Habitat Restoration Strategy (4 in CT and 2 in NY). Of the four CT projects funded in 1997, two were completed in the Fall of 1997 and two will be initiated in 1998. NYSDEC awarded funding for four habitat restoration proposals using SFY 1997-98 Bond Act funds. These four projects are: 1) $50,000 to Town of Brookhaven for Phragmites Removal in Stony Brook Creek; 2) $69,000 to Town of Mamaroneck for Pryer Manor Marsh Restoration; 3) $210,000 to City of New Rochelle for Aquatic and Non-Aquatic Planting Program; and 4) $461,512 to Town of North Hempstead for Morewood Wetlands Improvement	USACE is initiating a General Investigation Reconnaissance Study for LIS Habitat Restoration in FY98. NY will pursue Reconnaissance Study funding as well.
L1-2.Through Connecticut's coastal permit programs and consistency with the CT Coastal Management Act, applicants may be required to protect, restore or enhance aquatic resources.	CTDEP	Substantive progress	Through the requirements of the Coastal Zone Management Act and permitting programs, tidal wetlands, intertidal flats, submerged aquatic plants, and beaches and dunes are preserved. Activities are permitted in other resource types so long as adverse impacts are found to be minimal. Several project proposals have included parcels with degraded habitats that were restored either directly by the property owner or by CTDEP, with property owner permission.	
L1-3.Connecticut preparing a tidal wetland management plan that includes an identification of potential wetland restoration sites.	CTDEP	Complete	A wetland restoration plan has been developed that identifies restoration goals, strategies, and includes an inventory of potentially restorable sites. This inventory has been upgraded to include the delineation of the identified sites in GIS as part of the LISS habitat restoration initiative.	
L1-4.Connecticut will continue the Coves and Embayments Restoration program to restore degraded tidal and coastal embayments and coves.	CTDEP	Substantive progress	CTDEP, through its Coves and Embayments program has made significant advances in the habitat restoration, as described in action L1-1. The CT Conservation Stamp program purchased an amphibious mulching mower that has allowed for *Phragmites* control in brackish and fresh-tidal marshes.	See L1-1.
L1-5.Connecticut, New York, and federal agencies currently administer programs for the restoration of habitats other than tidal wetlands	CTDEP, NYSDEC, USFWS	Substantive Progress	See Ongoing Program L1-1.	

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1. RESTORATION AND ENHANCEMENT OF AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 40, P.107)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
such as dunes, submerged aquatic vegetation, and coastal woodlands.				
L1-6.New York is phasing out, and Connecticut prohibits, maintenance ditching of mosquito ditches in favor of selective use of open marsh water management techniques to control mosquitos and restore pools and ponds on tidal wetlands.	CTDEP, NYSDEC, federal agencies	Substantive Progress	Grid ditching was discontinued in Connecticut in 1985 and replaced with open marsh management. Ditches are gradually filling and restoring marsh habitat. In some cases, ditches are plugged with soil. On NYS property, remnant mosquito ditches are being used to control mosquito reproduction and minimize Phragmites colonization through salt water retention.	

1. RESTORATION AND ENHANCEMENT OF AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 40, P.107)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L1-7.Coastal America, a cooperative effort of several federal agencies, is conducting a study in Connecticut to evaluate the impacts of transportation facilities upon ten tidal wetland sites. This study is sponsored by the CTDEP and undertaken by the USACE. When the study is completed, restoration plans will be developed for those sites where a transportation facility is shown to be the cause of degradation. Restoration is expected to be implemented through a combination of ISTEA, Water Resources Development Act, Long Island Sound Cleanup Account funds, New York's Environmental Protection Fund, and, where appropriate, natural resources damages recovered under CERCLA or OPA90.	C	CTDEP CTDOT Coastal America Partners	Study was completed in 1994; restoration projects will proceed as funding is approved.	$100,000 for the initial study; restoration costs will vary for each project site.	Study complete	The study identified 5 tidal wetlands that were degraded as a result of transportation facilities. CTDEP has developed a justification for restoring these sites using ISTEA funds. Coastal America and CTDOT successfully used this justification to receive funding. Two of the study sites and several others identified by CTDEP have received funding through ISTEA. The restoration of Little River Marsh is being funded by New Haven, EPA, and DEP. The COE and DEP are developing a scope of work for Sluice Creek. The last site is on hold pending property owner permission.	Continue to implement the 5 projects and present new ones to Coastal America for consideration.
L1-8.Connecticut's Coves & Embayments Program will complete nine restoration projects in progress and commitments to begin three new projects.	C	CTDEP in cooperation with the municipal sponsor	Varies depending on project	$263,625 for projects in progress and $123,475 for projects to commence	Complete	Nine original and two additional projects have been completed. Three more projects are in implementation phase with 11 more in various planning stages. Recently completed and active projects include Davis Pond in East Lyme to restore wetlands and fish habitats ($210,000); Middle Beach wetland restoration in Westbrook ($60,000); Old Field Creek and Cove River in West Haven planning report ($115,000 with	Coves & Embayments program is beginning to automate project database and considering a web site in the future for sharing information on restoration projects.

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1. RESTORATION AND ENHANCEMENT OF AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 40, P.107)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
						ISTEA); Holly Pond sand removal permit issued ($250,000 available for construction); Mill Pond restoration project in Norwalk permit issued ($350,000 available for construction); Lighthouse Point, New Haven, final plan completed ($27,000).	
L1-9.Connecticut and New York should continue to pursue the use of funds from the following programs, and explore additional funding sources, to support restoration and enhancement activities described in the previous recommendation: The Land and Water Conservation Fund, the Intermodal Surface Transportation Efficiency Act (ISTEA) Enhancement Program, the Partners in Wildlife Program, Section 319 of the Clean Water Act, Army Corps of Engineers Section 22 Planning Funds, the Water Resources Development Act, National Coastal Wetlands Conservation Grants, the North American Waterfowl Management Plan, Connecticut's Long Island Sound Cleanup Funds, and the Coastal Zone Management Act.	R	CTDEP CTDOT NYDOT NYSDEC NYSDOS EPA USACE USFWS	Ongoing	Existing staff will be used; project costs vary from site to site	Substantive progress	CTDEP has a number of tidal wetland projects in progress using funds from ISTEA, COE-Section 22, CWA Section 319, USFWS Partners for Wildlife Program, LIS License Plate Fund, Ducks Unlimited, and the Coves and Embayments Program. An example is a site restoration identification along CT's coastline that was completed in 1994. EPA Region I, through the section 319 NPS grant program, has awarded funds to CT DEP to restore tidal wetlands as part of the "watershed resource restoration" program element. Five separate projects have been funded thus far: $15,000 for an eight-acre restoration at Hammonasset Beach State Park (completed in 1994); $9,004 for a five-acre restoration at White Sands Beach in Lyme (completed in 1997); $58,750 for a 20-acre restoration, again, at Hammonasset Beach State Park (proposed for spring 1998); $33,000 to support restoration of Higganum Cove, a tidal wetland in the Connecticut River estuary impaired by hazardous waste and other "dirty" fill (in conjunction with the CT DEP hazardous waste site remediation program staff); and $60,000 to assist in a 150 acre restoration in the Little River Marsh in New Heaven. NYSDEC and USFWS are pursuing grant applications cooperatively through local governments for various habitat restoration projects to be funded by the USFWS.	CT is continuing to complete projects and discuss other potential wetland restoration sites. During 1998 a salt marsh restoration project is being completed in Bride Brook, East Lyme CT with COE-Section 22 funds. A General Investigation Study started by the COE in January 1998 will be implemented in phases. The first phase will lead to COE constructed restoration projects. The LISS will continue to work to identify and secure funding for habitat restoration and enhancement activities on Long Island Sound. The Orient Point project has received part of a match to EPA grants from the EXXON Valdez settlement in the form of in-kind service. The project is scheduled to break ground in May, 1998.
L1-10.The rapid displacement of native brackish and fresh tidal plant communities on the Connecticut River has been identified as the	R	CTDEP USFWS	3 years	$130,000 for amphibious mulching machine	Substantive Progress	The restoration of degraded brackish marshes has begun on the lower Connecticut River, particularly in Old Lyme. A series of control	

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1. RESTORATION AND ENHANCEMENT OF AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 40, P.107)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
single most significant habitat problem in this estuary. A specific restoration program for the control of common reed in these tidal wetlands needs to be implemented to check and reverse the spread of common reed and develop the most efficient means of effecting this restoration. Control techniques need to be evaluated for the full range of wetland habitat types on the river. Baseline surveys will be established and post-control monitoring over multiple years will be conducted.				and $100,000 for staff, supplies, and monitoring.		techniques are being used here and evaluated for their effectiveness, such as The best mowing sequence. Research funds from the LIS License Plate Program were awarded to Connecticut College to conduct the evaluations of the control techniques. The LIS License Plate program has funded a GIS of the areal extent of the common reed in 1969 and 1994. CTDEP's application for funding from the North American Waterfowl Management Plan to support a multi-year control effort was not approved but has been revised and resubmitted.	
L1-11.New York should continue to phase out maintenance ditching for mosquito control. These programs should receive additional support for selective use of open marsh water management techniques to control mosquitos and restore pools and ponds on tidal wetlands.	R	NYSDEC in cooperation with mosquito control agencies		$1,000 per acre for open marsh water management	Partial Progress	This activity has begun in Suffolk County with cooperative efforts between Suffolk County Vector Control, NYSDEC, and USFWS.	Program is continuing. (See L1-6)
L1-12.Obtain long-term funding for Connecticut wetland restoration staff.	R	CTDEP	Upon approval of funding	$250,000 per year for staff	Not Initiated	The Wetland Restoration staff remains funded from year to year, often supported by grants for specific projects.	Continue efforts to secure permanent, continuing funding.
L1-13.Connecticut and New York should develop a restoration plan for the full range of coastal terrestrial and estuarine aquatic habitats adjacent to and in Long Island Sound. The restoration plan will include a list of potential restoration projects and a priority listing of projects to be implemented. Preliminary sites identified for future restoration in New York include: City Island ($300,000); Pelham Bay Park ($400,000); Wading River ($50,000); Sunken Meadow Creek ($50,000); Crab Meadow ($50,000); and Mattituck Creek ($100,000). Other sites in New York where costs have not been estimated include Pugsley Creek, Udall's Cove, Oak Neck Creek, Frost Creek, and East Creek. Connecticut has estimated that ten priority sites could be restored for $750,000, or approximately $75,000 per site.	R	CTDEP NYSDEC NYSDOS EPA NOAA USACE USFWS	3 years - (1996-1998)	$50,000 per year for each state for three years; restoration costs will vary depending upon project type.	Complete	The initiative is being implemented through an interagency team focusing on 12 terrestrial and aquatic habitats. A GIS database of more than 450 potential restoration sites has been developed. In May 1997, public meetings were held on draft strategy. Base on that input, a Habitat Restoration Strategy that sets a goal of restoring 10,000 acres of habitat and 100 river miles was approved in February 1998. Work on some sites has begun. The Echo Bay project will start in 1998, but the water quality improvements must be completed prior to the eelgrass planting. The project sponsor estimates that the project will be completed in October of 1998.	A technical document that provides restoration guidance for each habitat type is expected to be completed by June 1998. The interagency team will continue work with a focus on implementation and on refining information on additional sites.

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1. RESTORATION AND ENHANCEMENT OF AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 40, P.107)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L1-14.New York should strengthen their capabilities for implementing programs that restore degraded habitats. This should be undertaken in cooperation with the implementation of the Long Island Sound Regional Coastal Management Plan.	R	NYSDEC NYSDOS		$250,000 per year	Partial Progress	The NY State Clean Water/Clean Air Bond Act will fund some aquatic restoration projects. See L1-1 for more information.	Monies are to be awarded in early 1998.

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2. HABITAT PROTECTION AND ACQUISITION (CCMP TABLE 41, P.110)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
L2-1.The states of Connecticut and New York and the USACE will continue to implement their permit programs and coastal consistency provisions of states' Coastal Management Programs to regulate use and development of aquatic resources and critical habitats such as tidal and freshwater wetlands, intertidal flats, submerged aquatic vegetation beds, beaches, and dunes. These programs also regulate dredging and the disposal of dredged sediments at designated sites in Long Island Sound. Open water disposal is only permitted at the designated open water sites and may only occur if the disposal will not cause adverse impacts to estuarine organisms.	CTDEP, NYSDEC, NYSDOS, USACE, EPA	Substantive Progress	DEP continues to implement its coastal permitting and Federal consistency review programs. During this calendar year, there were 287 permit and 18 Federal consistency actions. In addition, several new enhancements have occurred during this period. A Coastal Resources Geographic Information System (GIS) has been produced which updates nearly 20 year old resource information. This GIS was specifically designed to support permit and coastal consistency reviews; including updated tidal wetland information and newly available digital information for submerged aquatic vegetation (SAV). A standardized SAV map template has been produced and the SAV maps will be distributed to towns and Federal agencies in 1999. Nine new general permits were created in order to streamline permitting for certain minor non-impacting activities. A new publication was produced entitled "Living on the Shore" in order to inform the public about their rights, opportunities and obligations with respect to living on the shoreline. This publication includes salient information about construction activities as they relate to permitting and coastal consistency. NYSDEC regulates dredging activities through its Tidal Wetlands and Protection of Waters Regulations.	The SAV maps will be distributed to town and federal agencies in 1999.
L2-2.Connecticut will continue to reduce habitat degradation caused by stormwater runoff projects (e.g. chronic dilution effects and sedimentation) through the goal of retaining the first one-inch of runoff.	CTDEP	Substantive Progress	This issue is addressed by the CTDEP in the review of any municipal project along the coast requiring mandatory coastal site plan review. The coastal permit program addresses this issue only when the discharge is directly into tidal wetlands and coastal waters. This provision has also been incorporated into the stormwater general permits for industrial and construction activity.	
L2-3.Connecticut and New York have programs to acquire by easement, fee simple acquisition, or other means habitats important for populations of plants and animals. These programs include the development of priority listings for acquisition and protection. Connecticut and New York have land acquisition and management programs that use state funds and federal fund programs such as the Land and Water Conservation Fund, the National Coastal Wetland Conservation Program, and the North American Waterfowl	CTDEP	Partial Progress	Land acquisition of open space in CT continues under the Recreation and Natural Heritage Trust Program using state bond funds. During 1997 11 acquisitions conserved 801 acres in fee as public open space. Two were donations of land totlaing 220 acres. CTDEP manages real property interests for over 211,000 acres of forest, park, wildlife, fishery, water access and natural areas.	3 recent land purchase approvals are in process in CT. - 354 acres in Westbrook - 14 acres in Stonington - 54 acres in East Haven

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2. HABITAT PROTECTION AND ACQUISITION (CCMP TABLE 41, P.110)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
Management Plan to protect and acquire coastal lands and wetlands.				
L2-4.The USFWS maintains a national system of refuges, which includes the Stewart B, McKinney National Wildlife Refuge in Connecticut (i.e., Salt Meadow, Chimon Island, Sheffield Island, Goose Island, Milford Point and Falkner Island Units) and Long Island National wildlife Refuge Complex in New York (i.e., Oyster Bay and Target Rock units).	USFWS			
L2-5.Congress has authorized the creation of the Silvio Conte Connecticut River National Fish and Wildlife Refuge within the Connecticut River Watershed for the purpose of conserving, protecting and enhancing the Connecticut River Valley populations of plants, fish, and wildlife; preserving natural diversity and water quality; fulfilling international treaty obligations relating to fish and wildlife; and providing opportunities for scientific research and education.	USFWS	Substantive Progress	A draft EIS for the refuge was released for comment in 1996, recommending that the FWS work with public and private interests for meeting the refuge purposes, with education and partnerships priorities. The refuge is unique in the extent to which residents of the watershed are actively involved in shaping the refuge plan. Eighteen outreach/environmental education grants and 21 habitat research and management grants were awarded in 1996.	
L2-6.Connecticut has established a Migratory Bird Conservation Stamp Program, the proceeds of which can be used for acquisition and management. The newly created state income tax form check off for endangered species, natural areas preserves, and watchable wildlife creates a fund that can be used for the identification, protection, conservation, management, and education activities related to the above listed wildlife and habitats.	CTDEP	Substantive Progress	The Conservation Stamp program has made a major contribution to the restoration of degraded tidal wetlands by enabling the purchase of an amphibious mulching mower to remove tall vegetation, especially common reed, in preparing of a site for restoration activities and for mechanical control of the common reed. Funds from this program were also used for tidal wetland restoration activities in the Quinnipiac river and South Cove in Old Saybrook. Funds from the state income tax "wildlife" checkoff have been used to fund Osprey research, wetland callback surveys to locate rare nesting wildlife, Least Tern recover project, and short-nosed Sturgeon habitat studies.	

2. HABITAT PROTECTION AND ACQUISITION (CCMP TABLE 41, P.110)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L2-7.Create a Long Island Sound Reserve	R	CTDEP		$50,000 per year	Not		

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2. HABITAT PROTECTION AND ACQUISITION (CCMP TABLE 41, P.110)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
System consisting of areas of land and water of outstanding or exemplary scientific, educational, or biological value to reflect regional differentiation and variety of ecosystems and to include representatives of all of the significant natural habitats found in the Sound. Where appropriate, sites will be selected from existing lands and wetlands held for conservation purposes so that acquisition funds will be directed towards those lands in private ownership that are needed to complete the reserve system. The primary activities in the recommendation include site identification (2 years) and site protection through the development of management plans, acquisition where necessary, and site management.		NYSDEC New York State Office of Parks and Recreation and Historic Preservation USFWS Long Island Sound Bi-state Committee		for each state for staff to identify sites, develop acquisition strategies and manage the reserve complex. Acquisition costs will depend upon areas identified for protection through purchase.	Initiated		
L2-8.Connecticut and New York should continue to acquire or protect through less than fee simple means, significant coastal habitats through funding sources such as the Land and Water Conservation Fund, the National Coastal Wetland Conservation Program, the North American Waterfowl Management Plan, Connecticut's Recreation and Natural Heritage Trust Program, Connecticut's Migratory Bird Conservation Stamp Program, New York's Environmental Protection Fund, and, where appropriate, natural resource damages recovered under CERCLA or OPA90.	R	CTDEP NYSDEC Assistance of local governments, environmental groups and federal granting agencies.		$50,000 per year for each state for staff.	Partial Progress	As an example of habitat protection through less than fee-simple, more than 70 acres of high quality tidal marsh on the CT River in the Cromwell Meadows was donated to the CT Audubon as part of an supplemental environmental penalty.	
L2-9.Acquire and protect those sites that are considered for acquisition in the New York State Open Space Conservation Plan. Sites include Oyster Bay Harbor ($5 million); Porpoise Channel ($2 million); Plum Point ($1 million); Udall's Cove ($8 million). Other sites on Long Island Sound that are among the state's highest priority acquisition sites include: Bronx River Trailway, Udall's Ravine, Alley Creek ($750,000); Long Creek and Mattituck Creek ($340,000); Premium River ($750,000);	R	NYSDEC New York State Office of Parks and Recreation and Historic Preservation		Priority sites for acquisition total $16 million	Partial Progress	New York has made allocations for land acquisitions through the Clean Air/Clean Water Bond Act. The Bronx River Trailway Project received an ISTEA award for some of its implementation.	Reviews of applications for NYS Bond Act funding for 1999 will occur during Summer of 1998.

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2. HABITAT PROTECTION AND ACQUISITION (CCMP TABLE 41, P.110)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
and Cedar Beach Creek ($186,000).							
L2-10.Acquire and protect those sites that are considered priorities for acquisition in Connecticut. The Great Meadows site is the highest priority. (See also Ongoing Programs portion of this table in the CCMP.)	R	CTDEP USFWS		$14 million	Partial progress	The lower CT River, designated as a Wetland of International Importance, is a priority. See action L2-8.	
L2-11.Encourage activities of existing Long Island Sound-specific land trusts and encourage formation of new trusts, to seek donations and easements of localized habitat areas for the plants and animals of Long Island Sound.	R	NYSDEC EPA-LIS Office		Redirect base program	Not Initiated		

3. INVENTORIES AND MANAGEMENT STRATEGIES FOR AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 42, P.112)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
L3-1.Connecticut, New York and The Nature Conservancy will continue the Natural Diversity Database in Connecticut and the Natural Heritage Program in New York. These programs collect, maintain, and update information pertaining to significant terrestrial and aquatic habitats.	CTDEP NYSDEC NYSOPRHP	Fully Met	CTDEP's natural diversity database maintains information about locations of state listed species (plants, vertebrates, invertebrates), populations and status, including population size, threats, and dates observed. NYSDEC maintain a database concerning significant fish, wildlife, and plant resources and significant ecological areas. The NY State Office of Parks, Recreation and Historic Preservation (NYSOPRHP) established its own natural resources inventory unit which will be closely coordinated with the National Heritage Database.	
L3-2.The USFWS will continue the Southern New England-New York Bight Coastal and Estuary Project. The project focuses on assessing and monitoring the regional geographic distribution and population status of a large number of key species called *Species of Special Emphasis* and their habitats including evaluating the threats to physical integrity of these habitats and the viability of species populations. Primary	USFWS			

KEY

1)Type: (O)n Going (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

3. INVENTORIES AND MANAGEMENT STRATEGIES FOR AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 42, P.112)				
Ongoing Programs	**Responsible Parties**	**Status[2]**	**Description**	**Upcoming Action**
objectives are to determine and delineate those regionally important habitats and species populations requiring both immediate and long term protection, conservation, enhancement, and restoration.				

KEY

1)Type: (O)n Going (C)ommitment, (R)ecommendation, (N)ew (A)ction

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Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

3. INVENTORIES AND MANAGEMENT STRATEGIES FOR AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 42, P.112)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L3-3.The NYSDEC will, on a pilot basis, develop a site-specific habitat management strategy for the Oyster Bay/Cold Spring Harbor complex. Phase II will entail implementation of the identified strategy.	C	LISS NYSDEC	Initiated in fall 1992, strategy to be completed in winter 1994	$50,000 of LISS funds for the development of the strategy. Implementation costs to be determined	Behind Schedule	A final draft has been submitted to EPA-LISO for final review.	Work has also begun on development of habitat management strategies for Milton Harbor in Rye, NY and Mt. Sinai Harbor, NY. An initial draft of the strategy for Milton Harbor is expected during the Summer of 1998.
L3-4.Connecticut is identifying wetland complexes of statewide significance and general wetland protection strategies for areas located in Long Island Sound and the Connecticut River. This project has been funded by the EPA under Section 104(b) of the Clean Water Act.	C	CTDEP	Fall 1994	$62,500.	Ongoing	CTDEP has completed the identification of wetland complexes of statewide significance and general wetland protection strategies. Staff are in the process of completing a draft final report.	Complete report
L3-5.Develop a nomination document to recommend the designation of the Connecticut River estuary as a *Wetland of International Importance* for the purpose of establishing a formal designation of this area to recognize the ecological significance of this ecosystem and to foster increased protection of its significant habitat complex and living resources.	C	CTDEP	Fall 1994	$25,000	Complete	The nomination document was completed in summer 1994 and submitted to the Ramsar Convention Bureau in Switzerland. The nomination was approved and the portions of the tidal wetlands and all of the tidal waters on the lower river were designated as a Wetland of International Importance in October 1994. Subsequently, several new parcels owned by three new partners were added to the designation. To celebrate the 25th anniversary of the Ramsar Convention, a series of public outreach efforts were sponsored in 1996 by CTDEP and USFWS.	Continue to encourage the designation of wetlands held for conservation purposes.
L3-6.Develop a strategic plan for the estuarine portion of the Connecticut River that will identify habitat and species issues/problems, monitoring, and research needs and recommendations to foster increased protection of this nationally significant ecosystem.	C	CTDEP	2 years	$50,000 per year for two years	Substantive Progress	CTDEP continues to make progress in the development of a Special Area Management Plan for the lower Connecticut River. The emphasis of this effort is to develop a management plan that promotes the conservation and restoration of living resources and their habitats. A task force has been assembled to provide advice and recommendations to CTDEP. Meetings were held to solicit ideas.	Continue evaluations
L3-7.Develop and periodically update a list of		CTDEP	Started in	$50,000 per year	Substantive	See Action L1-13.	Upon completion of in-

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3. INVENTORIES AND MANAGEMENT STRATEGIES FOR AQUATIC AND TERRESTRIAL HABITATS (CCMP TABLE 42, P.112)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
significant habitats, habitat complexes, and sensitive areas for protection and management. When completed, habitat management plans will be developed for these areas. In New York this should be undertaken in cooperation with the implementation of the NYSDOS Long Island Sound Regional Coastal Management Plan.	R	NYSDEC NYSDOS	1995.	for each state	Progress	In addition, NYSDOS is in the process of updating their Significant Fish and Wildlife Habitat descriptions. A draft narrative document is currently under agency review with NYSDOS.	house review, NYSDOS will circulate the narrative document to outside local, state, and federal agencies.
L3-8.Expand the Southern New England-New York Bight Coastal and Estuary Project to: 1) include the watersheds of Long Island Sound; and 2) reexamine the habitat complexes previously identified in Long Island Sound based upon the most current listing of Species of Special Emphasis. Examine the complexes more carefully to fine tune the management recommendations and implement these recommendations through state, county and municipal agencies.	R	USFWS	Ongoing				
L3-9.Federal habitat programs should develop a watershed approach to protection of living resources of Long Island Sound and their habitats, such as development of a Connecticut River/Long Island Sound Management Unit by the USFWS.	R	USFWS					
L3-10.Designate portions of the Connecticut River estuary as a National Estuarine Research Reserve. A reserve designation will result in promoting research that is directed towards resource management issues and provide facilities and programs for public education and interpretation.	R	CTDEP NOAA	3 years for selection of sites and the develop-ment/ approval of the manage-ment plan	$150,000	Not Initiated		

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4. MANAGING ENDANGERED AND THREATENED SPECIES (CCMP TABLE 43, P.116)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
L4-1.Connecticut, New York, and federal agencies will continue to implement their Endangered Species Programs in order to protect endangered and threatened species that live in and adjacent to Long Island Sound.	CTDEP NYSDEC	Substantive Progress	CTDEP's National Diversity Database (NDD) reviews all coastal permits for impacts to state and federal listed endangered, threatened and special concern species. A LIS License Plate Fund project provided the NDD with funding to prepare 25 endangered, threatened, and special concern plant factsheets for coastal areas. The NDD has provided all coastal towns with generalized maps of locations of state listed species to be used for municipal plans of conservation and development, land protection activities and environmental planning, including local inland wetland permits. In New York, impacts to state and federal endangered, threatened, and special concern species are considered during the permitting process. As described in L3-1, NYSDEC maintains a database containing information about significant fish, wildlife, and plant resources and significant ecological areas.	

4. MANAGING ENDANGERED AND THREATENED SPECIES (CCMP TABLE 43, P.116)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L4-2.Develop a list of endangered and threatened invertebrates. Maintain and update the diversity database. Periodically revise the list of threatened and endangered species. Expand the monitoring program, identify essential habitats, and develop recovery plans.	R	CTDEP		$150,000 per year for staff; $200,000 per year for least tern and piping plover nest site restoration	Partially Addressed	Some progress in this area is being made within the CTDEP fisheries division through existing resources and programs. CTDEP's Natural Resources Center also maintains a natural diversity database.	
L4-3.Develop legislation or regulations in New York state that will minimize disturbance to the essential habitats of rare plants and animals.	R	NYSDEC		Redirect Base Program	Not Initiated		
L4-4.Revise and publish a list of rare and sensitive species associated with the coastal lands and waters of Long Island Sound.	R	NYSDEC	Every 5 years	$50,000	Partial Progress	NYSDEC staff are compiling a list of rare plants associated with wetlands in Long Island Sound as part of the LISS Habitat Restoration Initiative.	This list is intended to be included in an appendix to the freshwater wetlands technical document to be produced by the LISS Habitat Restoration Initiative.

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5. MANAGING HARVESTED SPECIES (CCMP TABLE 44, P.117)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
L5-1.Development and implementation of fishery management plans, including research, monitoring, and conservation law enforcement activities.	NYSDEC	Ongoing	NYSDEC, as mandated by the Atlantic States Marine Fisheries Commission, has amended marine fishing regulations affecting recreational and commercial harvest of summer flounder (fluke), tautog (blackfish), and black sea bass. This was done in order to restore healthy populations of these species.	NYSDEC will accept written comments about the changes to the regulations for summer flounder, tautog, and black sea bass until June19, 1998.
L5-2.Management of shellfish aquaculture activities including resource monitoring.	CT Department of Agriculture, Bureau of Aquaculture.	Ongoing	CT DA/BA regularly monitors, manages and enhances shellfisheries in the state. A small scale stock and habitat assessment will be conducted in Hay Harbor, Fishers Island using $14,000 in funding from Natural Resource Damage funds.	Shellfish pathology surveys to be carried outside.
L5-3.Improvement of anadromous fish passage opportunities including associated research and monitoring activities.	CTDEP	Substantive Progress	The Habitat Restoration Initiative targets river migratory corridors for anadromous fish passage as one of the targeted habitat types. The Mianus fish passage project was completed with funding from CTDEP's Coves and Embayments program. Molsen Pond, Old Lyme.	
L5-4.Wildlife management, including research and monitoring activities in support of management programs.				
L5-5.Activities that minimize mortality due to entrainment and impingement of eggs, larvae, and juvenile and adult aquatic organisms at industrial facilities.	CTDEP	Substantive Progress	Working through permit process to see that location/operation of intakes minimize entrainment and impingement where practicable.	

5. MANAGING HARVESTED SPECIES (CCMP TABLE 44, P.117)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L5-6.Define, revise, and coordinate the establishment of seasonal restrictions for dredging that minimize adverse effects on aquatic organisms, especially finfish and shellfish and their habitats.	C	LISS CTDEP NYSDEC NYSDOS EPA NOAA	1994	Redirection of base program	Partially addressed	CTDEP already incorporates seasonal restrictions on dredging and disposal activities into permit authorizations for a number of sensitive living resources including anadromous finfish, winter flounder, and shellfish.	

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5. MANAGING HARVESTED SPECIES (CCMP TABLE 44, P.117)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
		USACE USFWS MSRC/SUNY				CTDEP's Long Island Sound Research Fund supported research on the effects of suspended sediments on survival of winter flounder eggs and larvae. The Fisheries Division has surveyed five rivers and harbors for occurrence of winter flounder larvae and the Department of Transportation has funded studies of noise associated with bridge work. These activities improve our ability to assess the need for and timing of seasonal restrictions on dredging and other construction activities to protect living resources. NYSDEC hosted a Regional Dredging Window Strategy Workshop on October 18, 1995. NYSDEC currently incorporates seasonal restrictions on dredging and disposal activities into permit conditions to protect a number of sensitive living resources, including finfish and shellfish, and for restrictions on shore disposal activities to protect sensitive species of shorebirds.	
L5-7.Enhance implementation of interstate fishery management plans for Long Island Sound fishery resources.	R	CTDEP NYSDEC NMFS USFWS	To be initiated upon approval of funding	$250,000 per year per state will be used to fund fishery management staff and, in Connecticut, law enforcement officers.	Not Initiated		
L5-8.Expand efforts to bypass obstructions to anadromous finfish migrations on Connecticut tributaries to Long Island Sound and the Connecticut River by constructing or installing fishways or fishlifts.	R	CTDEP Municipal governments and environmental organizations USFWS NMFS	To be initiated with enhanced funding	$100,000 per year for CTDEP staff to administer activities and construct small tributary fishways. Costs to be determined as project opportunities arise.	Partially addressed	Anadromous fish passage is being enhanced through cooperative efforts of CTDEP, municipalities and dam owners. Also see L5-3.	

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5. MANAGING HARVESTED SPECIES (CCMP TABLE 44, P.117)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L5-9.Enhance municipal shellfish restoration programs.	R	Municipal governments	Upon funding	$100,000 per state per year for a number of small grants to municipalities to enhance oyster, clam and bay scallop restoration efforts.	Partially Addressed	Some municipal governments in Connecticut are carrying out small programs using existing resources at the local level.	
L5-10.Enhance the Connecticut Oyster Restoration Program on public beds in state waters by stocking settling habitat (cultch) and conducting related activities (e.g., resource sampling).	R	Connecticut Dept. Of Agriculture/ Bureau of Aquaculture	To be initiated with enhanced funding. On-going.	$100,000 per year for staff and $400,000 per year for purchase of cultch for maintenance of restored beds.	Partially Addressed	In 1995 and 1996 $0.5 million in state bond funds were awarded each year in Connecticut to purchase and plant cultch to restore oyster beds.	CT Department of Agriculture, Shellfish Industry and UICO joint venture established to manage cultures on public beds. $100,000 FY 99.
L5-11.Develop a marine biotoxin assessment program for shellfish.	R	Connecticut Dept. Of Agriculture/ Bureau of Aquaculture NYSDEC	To be initiated upon approval of funding. On-going.	$300,000 per year in Connecticut and $150,000 per year in New York for staff and laboratory costs.	Partially Addressed	CT Dept. Of Agriculture initiated monitoring using existing agency resources. Fixed stations are monitored in susceptible areas and laboratory analyses are conducted.	CT Department of Agriculture training volunteers to monitor phytoplankton in LIS.
L5-12.Develop artificial reefs in appropriate areas of New York waters to increase fishing opportunities, consistent with the New York State Artificial Reef Development Plan. Plans have been developed to construct reefs in New York waters of Long Island Sound off Matinecock Point, Eatons Neck, Miller Place/ Mt. Sinai, and Mattituck Inlet.	R	NYSDEC and Cooperators	To be initiated upon approval of funding	Approximately $100,000 for each of four reefs planned for Long Island Sound.	Not Initiated	In the absence of funding and staff necessary to develop additional artificial reefs, NYSDEC's Artificial Reef Program has been focused on existing artificial reefs.	
L5-13.Develop methods to reduce the incidental take of nontarget species and undersized individuals in fishing activities.	R	CTDEP NYSDEC NMFS USFWS Atlantic States Marine Fisheries	To be initiated upon approval of funding	$50,000 per year per state for staff and $10,000 - $20,000 per year for test materials	Partially addressed	State agencies, the Atlantic States Marine Fisheries Commission, and fishery management councils have reduced the incidental take of juveniles and some non-target species through increased cod end mesh size restrictions in otter trawls and escape vents in certain pot and trap fisheries for lobsters	

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5. MANAGING HARVESTED SPECIES (CCMP TABLE 44, P.117)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
		Council New England and Mid-Atlantic Fishery Management Councils Commercial and recreational fishing organizations.		and equipment.		and finfish.	

6. MANAGING EXOTIC AND NUISANCE SPECIES (CCMP TABLE 45, P.120)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L6-1.Develop measures to prohibit or prevent the induction or release to Long Island Sound and its watershed of known or potentially undesirable species.	R	CTDEP NYSDEC USFWS U.S. Coast Guard Shipping Companies	To be initiated as soon as possible	$50,000 per year per state for staff to develop and manage program	Partial Progress	Through its coastal permit programs, CTDEP prohibits the introduction of non-indigenous plant stock for aquatic restoration projects such as tidal wetlands and eelgrass. Only plant stock collected in LIS is allowed. DEP discourages the use of beachgrass in dunegrass restoration that is not derived from the shores of the Sound. PA 97-32 established the authority for the Department of Agriculture to control the importation, cultivation, or raising of aquatic plants or animals that are not native to the state that might have adverse impacts upon living resources or aquatic habitats. CT also has a review procedure for the introduction of non-native insects to be used as biological control agents. NYSDEC, in its Tidal Wetlands Permitting Program, expressly discourages introduction of exotic species to the coastal environment.	The NYS Legislature is proposing an exotic species taskforce.
L6-2.Implement a management program to	R	CTDEP	To be	To be included	Not		

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6. MANAGING EXOTIC AND NUISANCE SPECIES (CCMP TABLE 45, P.120)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
reduce abundance of mute swans that are causing losses of certain aquatic habitat types such as submerged aquatic vegetation and certain types of emergent tidal wetland vegetation.			initiated as soon as possible	within costs of above item.	Initiated		

7. EDUCATING THE PUBLIC ABOUT THE PLANTS AND ANIMALS OF LONG ISLAND SOUND (CCMP TABLE 46, P.120)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L7-1.Develop an outreach program to inform and educate the public about the plants and animals in Long Island Sound.	R	Federal, state, and local governments, educational systems, organizations, and environmental organizations		See Public Involvement and Education Section	Substantive Progress	CTDEP continues to promote public involvement and education through many of its programs, especially use of LIS License Plate Funds. Examples include: Tidal Marshes of LIS; A Guide to the Housatonic River; Tidelands of the Connecticut River; the placement of interpretive signs or observation platforms at 12 coastal locations; displays and equipment at the Meigs Pont Nature Center; LIS Video for elementary through high school students; A Living Harvest: Oystering in LIS; Celebrating the Sea classroom programs; a mobile environmental library for the Old Saybrook schools; Birds of the CT Coast on display at the CT Museum of Natural History; Marine Animals of Southern New England and New York: an identification key; Long Island Sound Alive: a laser disc production showing the resources of LIS; the salt marsh laboratory at CT Audubon Coastal Center; fact sheets about endangered species; and development of an interpretive trail at Cove Island State park. NY Sea Grant/CT Sea Grant produced a slide show, script, and booklet on the plants and animals of LIS that are available to groups.	
L7-2.Develop a citizens monitoring program	R	Federal, state and		See Public	Partially	CTDEP works with citizens monitoring groups to	

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1)Type: (O)n Going (C)ommitment, (R)ecommendation, (N)ew (A)ction

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Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

7. EDUCATING THE PUBLIC ABOUT THE PLANTS AND ANIMALS OF LONG ISLAND SOUND (CCMP TABLE 46, P.120)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
specific to the plants and animals of Long Island Sound sufficient to aid managers in identifying problems and assessing the effects of management efforts.		local governments, educational and environmental organizations and private citizens.		Involvement and Education Section	Addressed	promote reliable and accurate field and laboratory efforts. In 1995, CTDEP began a volunteer Secchi disk monitoring program to determine long term changes in water clarity resulting from nitrogen enrichment and management and benefits for eelgrass beds. CTDEP also promotes citizens monitoring through use of CWA Section 319 funds. EPA sponsored a workshop on Quality Assurance for volunteer monitoring organizations in March 1998.	

8. DEVELOPING AN INFORMATIONAL DATABASE ABOUT LIVING RESOURCES AND THEIR HABITATS (CCMP TABLE 47, P.122)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
L8-1.Connecticut will continue its statewide Geographic Information System (GIS) Program to digitize spatial information and data for resource management purposes.	CTDEP	Fully Met	CTDEP's Natural Resources Center continues its efforts to develop data layers on the State's GIS, useful for resource management purposes.	
L8-2.Connecticut has created a Long Island Sound Resources Center for the purpose of : 1) developing the full potential of estuarine related GIS applications; 2) computerizing pertinent literature and data for rapid access through standard word search and spatial basis; and 3) completion of the estuarine geology of Long Island Sound. Additionally, this Center is taking a leadership role in the development of side scan sonar mapping of Long Island Sound that is now being overlaid with benthic community information. This will become the foundation of future living species and habitat management programs.	CTDEP	Fully Met	The collection is now on-line and searchable via the world-wide-web. A new survey of LIS sedimentary habitats is nearing publication. The center is working with OLISP on a public access database.	

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8. DEVELOPING AN INFORMATIONAL DATABASE ABOUT LIVING RESOURCES AND THEIR HABITATS (CCMP TABLE 47, P.122)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L8-3.Identify spatial data for living resources and habitat on a Soundwide basis and digitize priority data sets for incorporating into a Soundwide Geographical Information System.	C	LISS	Initiated in winter of 1993-1994; completion date is winter 1994-1995	$97,000 LISS Funds	Substantive Progress	Through funding provided by the LISS, an electronic basemap for all of LIS that incorporates the most current bathymetry has been created. CTDEP has developed or funded the development of a number of digital habitat and living resources coverages including eelgrass in eastern LIS, SAV in the CT river, colonial waterbirds in CT (NY portion under development), and tidal wetlands. CTDEP is developing a Coastal Resources Library to include the previously listed data and existing resources such as intertidal flats. The effort is funded by the EPA Wetland Protection Program as is the development of a detailed living resources/habitat GIS at the mouth of the CT River for oil spill planning. Work has also been directed towards the development of an anadromous finfish GIS, but this is still under development.	
L8-4.Expand the data layers for living resources and their habitats on a Soundwide basis.	R	EPA-LIS Office	5 years	$75,000 per year	Not Initiated		
L8-5.Develop and maintain state databases and an integrated Long Island Sound database describing the living resources of Long Island Sound and their habitats.	R	CTDEP NYSDEC		$50,000 per year for each state for staff and $100,000 one-time only for data processing hardware/ software	Partially Addressed	CTDEP fisheries division maintains statistical databases on Long Island Sound marine resource surveys, inshore seine surveys, and lobster studies. NYSDEC Bureau of Marine Resources maintains statistical databases on lobster, seine surveys, anadromous fish, and party/charter boat surveys in Long Island Sound.	
L8-6.Expand the side scan sonar/benthic habitat mapping program in order to create baseline information for management and conservation purposes.	R	CTDEP USGS		$100,000 per year for 5 years	Partially Addressed	Some progress has been made in benthic mapping through collaborative efforts of CTDEP's Marine Geology Program, the USGS, and the University of New Haven (through the LIS Research Fund).	
L8-7.Maintain and enhance the Long Island Sound literature, indexing and GIS capabilities of the Marine Sciences Research Center at SUNY,	R	MSRC/SUNY		$75,000 per year	Not Initiated		

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8. DEVELOPING AN INFORMATIONAL DATABASE ABOUT LIVING RESOURCES AND THEIR HABITATS (CCMP TABLE 47, P.122)							
Action	**Type[1]**	**Responsible Parties**	**When**	**Estimated Cost**	**Status[2]**	**Description**	**Upcoming Action**
Stony Brook.							

9. SOUNDWIDE AND SITE-SPECIFIC RESEARCH AND MONITORING (CCMP TABLE 48, P.123)				
Ongoing Programs	**Responsible Parties**	**Status[2]**	**Description**	**Upcoming Action**
L9-1.Connecticut conducts a Soundwide open water fishery survey that has become an integral component of the LISS monitoring and Management programs. In addition, Connecticut conducts a nearshore finfish survey, and surveys of lobster, shad, anadromous herrings, Atlantic sturgeon, and shortnose sturgeon (the latter is listed by the federal government as an endangered species). Other marine surveys include a survey of oyster recruitment (Connecticut Department of Agriculture, Aquaculture Division) and recreational and commercial fishery statistics activities.	CTDEP	Substantive Progress	Enhancements to recreational and commercial fishing statistics are being developed through Atlantic States Marine Fisheries Commission (ASMFC), Atlantic Coast Cooperative Statistics Program (ACCSP), NMFS and coastal states taking part.	
L9-2.Connecticut conducts nesting surveys of colonial waterbirds, Least Tern and Piping Plover, Osprey, waterfowl, a mid-winter eagle survey, and surveys of diamond-backed terrapin, threatened and endangered terrestrial species, and other species of special concern.	CTDEP	Substantive Progress	CTDEP's Natural Diversity Database maintains "Heritage" information and develops GIS coverages resulting from Wildlife Division surveys of avifauna.	
L9-3.New York conducts an American lobster mortality project funded by the LISS. In addition, New York conducts the NMFS's Recreational Fishery Statistics Survey, surveys of commercial fishery landings, seabird surveys, (e.g., ospreys, piping plovers, least terns), surveys of threatened and endangered species and species of special concern, and other surveys as needed.				

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9. SOUNDWIDE AND SITE-SPECIFIC RESEARCH AND MONITORING (CCMP TABLE 48, P.123)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
L9-4.Connecticut should pursue the construction and staffing of a marine science technology center at Avery Point with a research focus on Long Island Sound.	R	CTDED CTDEP CTDOA University of Connecticut		$33 million in capital costs; $4 million per year in operating costs	Partially Addressed	Through the UCONN 2000 bonding program, the marine sciences technology program at Avery Point is expanding, including addition of new professional staff and facility renovation and expansion.	
L9-5.Enhance wildlife monitoring activities (e.g., seabirds, waterfowl, and marine turtles).	R	CTDEP		$50,000 per year for staff, interns and contract work	Not Initiated		Periodic colonial waterbird surveys will be conducted during the summer of 1998.
L9-6.Monitor the status and trends of eelgrass in the Sound and all species of submerged aquatic vegetation in the Connecticut River using remote sensing and ground surveys.	R	CTDEP EPA	To be initiated upon funding	$100,000 per year for photography, field surveys, and boundary delineations	Partially Addressed	Baseline mapping for eelgrass in the Sound and submerged aquatic vegetation in the Connecticut River have been completed. No new remote sensing has been conducted to determine trends. A volunteer Secchi disk monitoring program has been implemented to evaluate trends in water clarity to guide eelgrass restoration efforts.	
L9-7.New York should initiate a nearshore fishery independent survey of Long Island Sound.	R	NYSDEC	To be initiated upon funding	$150,000 per year	Not Initiated		
L9-8.Continue the lobster mortality and disease monitoring project in Long Island Sound.	R	NYSDEC	Annually	$65,000 per year	Not Initiated		

10. LIVING RESOURCES AND HABITAT RESEARCH (CCMP TABLE 49, P.124)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
L10-1.Connecticut will continue the Long Island Sound Research fund. This fund is used to foster research that addresses priority management	CTDEP	Discontinued	Seventeen new projects were funded through the LIS Research Fund during the last active round of funding. No funds were available in 1996 and 1997.	

KEY

1)Type: (O)n Going (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

10. LIVING RESOURCES AND HABITAT RESEARCH (CCMP TABLE 49, P.124)				
Ongoing Programs	**Responsible Parties**	**Status[2]**	**Description**	**Upcoming Action**
issues in Long Island Sound including living species and their habitats.				

10. LIVING RESOURCES AND HABITAT RESEARCH (CCMP TABLE 49, P.124)							
Action	**Type[1]**	**Responsible Parties**	**When**	**Estimated Cost**	**Status[2]**	**Description**	**Upcoming Action**
L10-2.Connecticut has funded the following living resources and habitat research: evaluation of the causes of declines of eelgrass; assessment of contaminant levels in the greater scaup; changes in the phytoplankton community resulting from nitrogen enrichment; effects of hypoxia on bottom feeding fish; vegetation changes in a restoring tidal wetland; and mapping of benthic communities.	C	CTDEP and various Connecticut researchers	Each research topic has a different completion date ranging from spring of 1994 to 1996.	$870,000	On Schedule	These projects are in various states of completion. An additional funding was awarded to study water quality impacts of degraded salt marshes, Connecticut statewide land cover mapping update, sediment accumulation in coastal coves, mercury cycling and impacts in LIS, dredging impacts on winter flounder, and benthic community characteristics.	
L10-3.Identify priorities for management-oriented research about the living resources of Long Island Sound and their habitats.	R	CTDEP NYSDEC EPA EPA-LIS Office NMFS USFWS Academic Institutions		$5,000 workshop	Not Initiated		

KEY

1)Type: (O)n Going (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

SUMMARY OF MANAGEMENT ACTIONS: PUBLIC INVOLVEMENT AND EDUCATION

1. COMMUNITY AWARENESS AND STEWARDSHIP (CCMP TABLE 51, P.146)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
E1-1.The LISS and state public involvement and education programs are: developing printed and other educational materials for specific audiences; exhibiting LIS materials at regional and local fairs and events; encouraging education and information on the Sound for urban populations; promoting the importance of the Sound's resources to children in the region; and, using public educational material of non-profit organizations.	CTDEP NYSDEC Sea Grant EPA	Substantive Progress	The LISS outreach program has been funded each year. In 1994 presented 31 slide shows to 925 people. Staffed 13 displays viewed by 20,000 people. Responded to 717 requests for information. Produced *Sound Values* and *LISS Models* fact sheet. In 1995 presented 21 slide shows to 562 people. Staffed 14 displays view by 30,000 people. Responded to 533 requests for information. Reproduced *Supporting the Sound* fact sheet. Published *UPDATE* newsletter focusing on habitat restoration. In 1996 presented 11 slide shows to 600 people. Staffed 9 displays view by 15,000 people. Responded to 809 requests for information. Produced *How Low Dissolved Oxygen affects Living Marine Resources* and *Putting the Plan in Motion* fact sheets. Published four *UPDATE* newsletters. In 1997 presented 7 slideshows to 188 people and 7 displays seen by over 20,000 people with 775 requests for information. Published 3 newsletters, nitrogen & habitat slideshows, a habitat poster, the Phase III plan, and atmospheric and alternatives factsheets. Released the LISS small grants Request For Proposals. Made 3 presentations to 249 people and produced the fall issue of UPDATE. CTDEP produced two videos: the *Living Sound* with LIS license plate funds, targeting elementary school kids, and *Long Island Sound: Everybody's Sound*, to be distributed to high schools, municipalities, and nonprofits, which explains the hypoxia problem in LIS and management plans to address it. CTDEP continued to participate and display LIS materials in local events, Earth Day, Coast Guard Day, and Oyster Festivals. CTDEP has also targeted urban education on LIS using the LIS License plate fund. CTDEP has produced three new publications: 1) CT Coastal Habitat Restoration brochure. 2) Living on the Shore: Rights and Responsibilities. 3) Pump-Out Stations in CT. The Connecticut LIS License Plate Fund supports four categories of activities: public access, public education, habitat restoration, and research: Spring 1993 4 projects totaling $160,000 Fall 1993 24 projects totaling $309,000 Spring 1994 27 projects totaling $370,000 Fall 1994 11 projects totaling $140,000 Spring 1995 23 projects totaling $630,000 Spring 1996 14 projects totaling $222,209 Spring 1997 14 projects totaling $277,808	CTDEP will complete a public access map in Spring 1998. The Sea Grant Program will continue outreach programs and the Small Grants awards.
E1-2.Support research conferences such as: the CTDEP conference to highlight its LIS Research Grant Program; the LIS Watershed Alliance *Citizens' Summit* annual conference on the Sound; and the bi-state LIS research conference	CTDEP NYSDEC LISWA EPA CAC	Fully Met	The ongoing research conferences were successfully held including the annual CTDEP Research Grant Conference, Biennial bistate LIS Research Conference, and the annual LISWA Conference.	LIS Research Conference Oct. or Nov. 1998.

KEY
1)Type: (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued
Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated

1. COMMUNITY AWARENESS AND STEWARDSHIP (CCMP TABLE 51, P.146)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
sponsored by local universities, Sea Grant programs, and the states.	Sea Grant Universities			
E1-3.*Coastweeks*, an annual three week celebration of marine and coastal environments is supported by both states.	CTDEP NYSDEC	Partial Progress	The current focus of this program is the National Beach Cleanup Day, which is coordinated by CT Sea Grant in CT and the American Littoral Society in NY. The American Litoral Society was supported in 1997 through the small grants.	Next Beach Clean-Up Day is planned for 9/98. ALS is supported by Small Grants in 1998.

1. COMMUNITY AWARENESS AND STEWARDSHIP (CCMP TABLE 51, P.146)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
E1-4.Enhance the LISS and state public involvement and education programs to provide additional funding to build upon the current outreach and education activities with a new focus on interpretation and implementation of the management plan.	R	CTDEP NYSDEC EPA	Ongoing	$200,000/yr	Substantive Progress	See E1-1. A fact sheet *Putting the Plan into Motion* described implementation progress up to 1995. This tracking report has been used to update the CAC on implementation status. In 1997, the LISS created and expanded a web site (ww.epa.gov/region01/eco/lis) that has been among the most visited of EPA region 1's pages. The web site includes fact sheets, slide shows, newsletters, LIS links and contact information.	CTDEP plans to hire a public outreach person w/LISS funding, early in 1998. Plan to update the Fact Sheet "Putting the Plan in Motion" to include data & other information on the LIS web site.

KEY
1)Type: (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued
Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated

2.PROMOTING UNDERSTANDING (CCMP TABLE 52, P.147)

Ongoing Program	Responsible Parties	Status[2]	Description	Upcoming Action
E2-1.Incorporate LIS information into all related programs conducted by state staff wherever possible.	CTDEP NYSDEC	Substantial Progress	Both states have expanded efforts to incorporate LIS information and priorities into existing programs and to seek new opportunities for communicating information. For example, CTDEP is adding LIS information to the Project Wet curriculum and coordinating teacher workshops and materials as part of the program. CTDEP also includes LIS information on its web site.	Continue to add LIS information in the CTDEP web site.

2.PROMOTING UNDERSTANDING (CCMP TABLE 52, P.147)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
E2-2.Provide information to all municipalities on the LISS and the importance of protecting and restoring the Sound. Special attention will be given to coastal municipalities in the form of briefings by state officials to explain exactly how implementation of the plan will affect that particular city or town and how to work cooperatively together to implement the management plan. Briefings will also be held for specific user groups, local officials, and elected representatives.	C	CTDEP NYSDEC	Initiated upon signature of the plan by the state Governors and the EPA Admin-istrator	Redirection of base program	Partial Progress	NYSDEC, CTDEP, and EPA staff continue to provide outreach to community governments on an opportunistic basis, through watershed programs and other meetings. Two LISS workshops were held to provide general information to local officials on LIS programs during LIS cruises in April 1997. Another workshop on tools available to local governments for water and resource protection was held in April 1997. CTDEP held meetings to describe Phase III to those municipalities with sewage treatment plants, with 50 municipalities attending. NYSDEC conducted meetings to brief local officials on the nitrogen reduction effort. Staff have also met with officials from the towns of Rye and Glen Cove.	Meetings with coastal communities to provide technical outreach on PA 91-170. Gearing up on Quinnipiac River watershed project.
E2-3.Assess opportunities for training and educating the environmental decision-making community and provide technical information and assistance on implementation of the plan to the regulated community.	C	CTDEP NYSDEC	Ongoing	Redirection of base program	Partial Progress	CTDEP works regularly with the municipalities regarding nutrient removal at sewage treatment plants. CTDEP also provides technical outreach for a large range of nonpoint source matters through technical guidance and workshops. See also E2-2 for municipal wordshops on Phase III. New York has held meetings with individual towns.	Release coastal stormwater and nonpoint source manual as part of PA 91-170 meetings.
E2-4.Utilize the Bi-state Marine Resources Committee to ensure Long Island Sound related legislation moves on a parallel track in both Connecticut and New York and to help educate	C	CTDEP NYSDEC NYSDOS	Ongoing	Redirection of base program	Partial Progress	The Committee met in January 1997 after a long hiatus. Legislation relating to the Menhaden fishery in LIS was passed in 1997. As a result of this meeting, both states passed legislation restricting	

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2.PROMOTING UNDERSTANDING (CCMP TABLE 52, P.147)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
local governments and the public about the importance of the Sound and the successful implementation of the LISS recommendations.						commercial Menhaden harvesting in LIS.	
E2-5.Pursue reestablishment of funding for the Long Island Sound Resource Center at Avery Point and further development of a similar resource center in New York to serve as clearinghouses and depositories for information about the Sound and investigate ways to improve funding for these centers.	R	CTDEP NYSDEC EPA	Ongoing	$150,000 per year for Connecticut Long Island Sound Resource Center; $60,000/ year for a New York facility	Not Initiated	No new funding has been secured.	

3. FACILITATING PUBLIC PARTICIPATION (CCMP TABLE 53, P.148)

Ongoing Program	Responsible Parties	Status[2]	Description	Upcoming Action
E3-1.Encourage public participation in activities relating to the cleanup and protection of the Sound and provide support for activities including storm drain stenciling, beach grass planting, and beach cleanups.	CTDEP NYSDEC EPA Sea Grant	Substantive Progress	This action is being met primarily through the Connecticut LIS License Plate Fund and the LISS Small Grants program (21 projects have been funded to date under the Small Grants Program). For example, New York Sea Grant continues to provided information on storm drain stenciling. Eight different stencils are available depending on the water body being stenciled. Also, state 319 funds are put into these activities. Staff gives numerous presentations to the general public each year. For example, in 1997 staff gave a series of public meetings on the subsequently adopted Phase III Plan. Also, Sea Grant has created a Sound Gardening Demonstration Garden in Oyster Bay funded through 319 funds.	1998 LISS Small Grants funded 10 projects.

3. FACILITATING PUBLIC PARTICIPATION (CCMP TABLE 53, P.148)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
E3-2.The LISS Citizens Advisory Committee will continue to provide guidance to the Management and Policy Committee and serve as a link between the public and LISS management agencies. The CAC has been instrumental in providing guidance to the Study and serving as a conduit between the Management Conference	C	CAC	Immediately	Costs are $4,000 per year for expenses and travel and would be covered under the basic cost of maintaining the	Fully Met	The CAC has expanded membership, has formed subcommittee to provide focused input on specific areas, and has been very active in providing counsel to the Management Conference. CAC members participated in the 1996 Citizens Advisory Committee meeting of the National Estuary	The CAC plans to hold a joint conference with the NEP in 1999.

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3. FACILITATING PUBLIC PARTICIPATION (CCMP TABLE 53, P.148)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
and the public.				Management Conference		Program.	
E3-3.Enhance funding for hands-on activities such as storm drain stenciling, beach grass planting and beach cleanups to allow the public to actively participate in the cleanup and restoration of the Sound and learn more about its ecosystem.	R	CTDEP NYSDEC EPA Sea Grant	When funding becomes available	$25,000 per year	Fully Met	CTDEP funds storm drain stenciling activities with grants from the Long Island Sound License Plate Fund and through watershed projects funded by Section 319 funds from the EPA. The LISS has provided $25,000/year for a Small Grants program to support local implementation and education efforts.	Continue efforts to promote public awareness. CTDEP has arranged for a LIS VISA card that will contribute to the LIS License Plate Fund. The Small Grants program will be increased to $50,000 in FY98.
E3-4.Promote citizen involvement in educational and monitoring activities in and around the Sound and consider: - Providing technical assistance to citizen monitoring groups; - Developing a reward system for citizens participating in Long Island Sound protection and restoration programs; - Developing environmental habitat kits and guide maps; - Production and distribution of videos of Long Island Sound research cruises.	R	CTDEP NYSDEC EPA	When funding becomes available	$75,000 per year	Substantive Progress	CTDEP assists to the extent possible supporting citizens monitoring groups with technical staff for planning programs, grants to support efforts, and review of reports and data. CTDEP is in the process of hiring an environmental analyst to work with citizens monitoring groups and plans to hire a public outreach staffer to work on LISS outreach activities in early 1998. CTDEP also supports education programs, including Project WET and SEARCH. EPA and Sound Watch sponsored a Quality Assurance workshop for citizen volunteers in March 1998.	CTDEP plans to put LIS License Plate fund projects on its web site so they can be used by other school groups for water quality monitoring, curricula, and other related projects.

4. INCREASE COMMUNICATION AND COOPERATION (CCMP TABLE 54, P.150)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
E4-1.Increase efforts to coordinate ongoing governmental and nongovernmental public outreach efforts as the plan becomes implemented and encourage private and nonprofit groups to continue to develop and implement Long Island Sound educational and outreach programs.	C	CTDEP NYSDEC EPA	Ongoing	Redirection of base program	Substantive Progress	Outreach staff participate in LIS Educators Meetings organized by Save the Sound and held quarterly at various locations around the Sound. Briefings and meetings with local government officials have been held as part of the habitat restoration initiative and the Phase 3 nitrogen reduction targets. Many of the activities listed	

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4. INCREASE COMMUNICATION AND COOPERATION (CCMP TABLE 54, P.150)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
						elsewhere in this section to support outreach and education help meet this commitment as well.	
E4-2.Establish a public outreach work group to guide the implementation of the public involvement and education commitments and recommendations. The work group will work closely with and serve to complement the ongoing public outreach and education efforts of the Citizens Advisory Committee. The group will also be charged with determining funding resources for implementation of public involvement and education recommendations, consulting with staff on tactics, working to provide coordination of public outreach efforts from both an internal and external basis, and assessing program effectiveness.	R	CAC CTDEP NYSDEC EPA	Upon signature of the plan by the state Governors and the EPA Administra-tor	Redirection of base program	Fully Met	The first meeting of the Public Outreach Work Group (POWG) was held in October 1994. There were 28 members as of January 1997. The POWG has reviewed outreach materials, provided ideas for new material, and reviewed the proposals received in response to the LISS Small Grants program.	POWG was merged with the CAC communications subcommittee in 1998.

5. ENHANCE EDUCATION AT ALL LEVELS (CCMP TABLE 55, P.151)

Ongoing Programs	Responsible Parties	Status[2]	Description	Upcoming Action
E5-1.Support ongoing actions that assist teachers in their efforts to integrate LIS issues into existing curricula.	CTDEP, NYSDEC, EPA, Sea Grant	Substantive Progress	CTDEP is currently working on a listing of all LIS related curricula and programs for teachers. Also see action E1-1 on videos that will be distributed to teachers and E3-4 for similar outreach activities. In 1997, LISS Small Grants awarded Save the Sound a grant that produced an education curriculum entitled Sound Connections. Also in 1997 NY Sea Grant developed a marine education directory funded by DOS and CT Sea Grant developed Sound Factsheets funded through Small Grants. NY Sea Grant is a member of the Executive board for NYS Marine Educators and helps to distribute LIS materials and information to teachers.	

5. ENHANCE EDUCATION AT ALL LEVELS (CCMP TABLE 55, P.151)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action

KEY
1)Type: (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued
Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated

5. ENHANCE EDUCATION AT ALL LEVELS (CCMP TABLE 55, P.151)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
E5-2.Continue Connecticut's Long Island Sound High School Research Grant Program, initiated in 1990. This program provides funding for students to conduct research on the Sound and its watershed.	C	CTDEP	Ongoing	$30,000 per year	Discontinued	CTDEP provides some License Plate Fund grant money to these efforts.	
E5-3.Encourage natural history museums and nature centers to promote Long Island Sound issues within their programs.	C	CTDEP NYSDEC EPA	Ongoing	Redirection of base program	Partial Progress	CTDEP works with museums and at public affairs such as local fairs and festivals to promote sound environmental management. CTDEP funded a Long Island Sound traveling display through the CT Museum of Natural History.	CTDEP is developing a nonpoint source exhibit with the CT Museum of Natural History NY is working with the LI museum & MSRC to develop a LIS display.
E5-4.Work with school districts and, where appropriate, the Department of Education, in Connecticut and New York to develop Long Island Sound educational materials and outreach programs for primary and secondary schools. Help teachers integrate Long Island Sound information into their curricula and provide materials wherever possible. This should include hiring a Long Island Sound education coordinator.	R	CTDEP NYSDEC	When funding becomes available	$75,000 per year	Partial Progress	CTDEP's Project SEARCH and other Information and Education Section activities are aimed at educating educators and students about a broad range of environmental matters, including Long Island Sound.	
E5-5.Enhance ongoing actions to assist teachers in their efforts to integrate Long Island Sound issues into their existing curricula including the development and support of teacher workshops.	R	CTDEP NYSDEC EPA	When funding becomes available	$75,000 per year	Partial Progress	CTDEP's Project SEARCH and other Information and Education Section activities are aimed at educating educators and students about a broad range of environmental matters, including Long Island Sound.	
E5-6.Consider a Long Island Sound High School Research Grant Program to provide resources to allow a variety of high schools to conduct research on the Sound and its watershed.	R	NYSDEC	When funding becomes available	$30,000 per year	Not Initiated		

6. SECURE FUNDING (CCMP TABLE 56, P.152)

Ongoing Program	Responsible Parties	Status[2]	Description	Upcoming Action

KEY
1)Type: (C)ommitment, (R)ecommendation, (N)ew (A)ction

2)Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued
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6. SECURE FUNDING (CCMP TABLE 56, P.152)

Ongoing Program	Responsible Parties	Status[2]	Description	Upcoming Action
E6-1.The LISS will continue to encourage all organizations involved in the public involvement and education effort, both governmental and nongovernmental, to take advantage of the various grant programs, for which they are eligible, that provide funding for educational activities. These include CT's LIS Fund, LIS High School Research Grant Program, and EPA's Education Grants. Private sector funding should also be sought when and where possible and other private grant programs identified.	CTDEP NYSDEC EPA Sea Grant Other Management Conference Participants	Partial Progress	Announcements for funding are widely circulated within the LIS community. Since its inception, the CTDEP, LIS License Plate fund has allocated more than $2 million to fund more than 120 projects. The Small Grants program has funded 21 projects with a total of $64,912.95 helping 156 teachers, 1,400 children, and producing 15,000 publications. Requests for Proposals have been sent out to over 300 individuals or groups.	CTDEP will mail the RFP for the next round of License Plate projects in early 1998. The information will also be available on the CTDEP web site. Sea Grant will produce a table of all funding opportunities.

6. SECURE FUNDING (CCMP TABLE 56, P.152)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
E6-2.Seek to create a public involvement and education (PIE) fund that could be supported by a variety of funding sources, including federal appropriations through the Long Island Sound Improvement Act. The PIE fund would be administered by the LISS Management Conference. A PIE fund and interest generated from its endowment would provide support for projects fulfilling plan involvement and education actions and recommendations as proposed by both nongovernmental and governmental organizations. Current state and private Long Island Sound public education programs are under funded. State and private funding sources must be directed toward meeting the needs of existing programs before being sought for a PIE fund.	R	CTDEP NYSDEC EPA	Upon signature of the plan by the state Governors and the EPA Administra-tor	Seed money should be made available for the establishment of a PIE Fund.	Not Initiated	A PIE funds has not been established. However, funding for existing outreach and education programs, such as the CTDEP License Plate Fund and the LISS Small Grants Program have continued.	

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SUMMARY OF MANAGEMENT ACTIONS: CONTINUING THE MANAGEMENT CONFERENCE

1. SUPPORTING IMPLEMENTATION (CCMP TABLE 50, P. 141)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
M1-1.Formally extend the Management Conference for a minimum of five years to continue coordination and oversee implementation of the management plan. The Citizens Advisory Committee will remain part of the Management Conference structure.	C	EPA Administra-tor	Initiated upon approval of the plan. Completion date July 1, 1994.	Redirection of base program	Fully Met	The 1994 Long Island Sound Agreement committed the EPA and states to continue the Management Conference. Section 119 of the CWA was modified in 1996 to extend the Management Conference and authorize continued funding.	
M1-2.Continue and expand the role of the EPA Long Island Sound Office, consistent with the requirements of the LIS Improvement Act of 1990. Funding is available in FY 1994, but will be required in future years.	C	EPA Regions I and II	Ongoing. The office has facilities in Stamford, CT and Stony Brook, NY	Operational costs approximately $175,000 per year	Substantive Progress	EPA has continued to provide support for Long Island Sound Office under Sections 119 and 320 of the CWA Act. In 1997, the LISS prepared a progress report on CCMP implementation and submitted it to EPA to assist in FY 1998 funding decisions. Based on its review, EPA decided to continue funding the LISS in FY 1998.	The administration has proposed funding for the Long Island Sound Office as part of its FY99 budget. The budget has yet to be acted upon by Congress.
M1-3.Continue state program coordination and involvement in the Management Conference. Funding is available in FY 1994, but will be required in future years.	C	EPA-LIS Office	Ongoing, starting in FY 1994.	$150,000 per year	Fully Met	The Management Conference has continued to provide funding support for state coordination efforts through FY 1997.	
M1-4.Maintain public involvement and education efforts with an added focus on local government involvement. Funding is available in FY 1994, but will be required in future years.	C	EPA-LIS Office	Ongoing, starting in FY 1994	$150,000 per year	Fully Met	The LISS has continued support its public outreach and education program. See the Public Involvement and Education section for details.	
M1-5.Establish delegation of authority to allow the EPA Long Island Sound Office to support projects of studies as authorized by the Long Island Sound Improvement Act.	C	EPA-Headquarters	Upon approval of the plan	Redirection of base program	Complete	Delegation of authority was authorized by EPA.	
M1-6.Advocate modification to Clean Water Act Section 320(g)(2) to allow the EPA to provide base funding through cooperative agreements to National Estuary Programs that complete their management plans.	C	CTDEP NYSDEC	Ongoing	Redirection of base program	Complete	EPA has provided post-CCMP funds to the Management Conference under Section 320 of the CWA. Legislation was passed in 1996 to allow EPA to fund the Management Conference's implementation of the CCMP using FY 1997 funds.	
M1-7. Develop a coordinated monitoring plan to assess the effectiveness of implementation, considering innovative approaches and building	C	LISS	Completed in early 1994	$25,000	Complete	A LISS monitoring workshop was held in 1993. The workshop integrated findings of the LISS to develop a comprehensive, Soundwide monitoring	The continued effectiveness of monitoring programs should be evaluated with a

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Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

1. SUPPORTING IMPLEMENTATION (CCMP TABLE 50, P. 141)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
upon existing programs.						plan. Portions of the Monitoring Plan are being implemented.	consideration of new technologies and approaches, especially moored, continuous data stations.
M1-8.Coordinate data management efforts between Long Island Sound and New York-New Jersey Harbor Estuary Program (HEP), including support for a systemwide data manager.	C	LISS and HEP Management Conferences	Funded for 1994	$25,000 per year from each program	Partial Progress	Both the HEP and LISS funded efforts to identify and load priority datasets into ODES. Now the focus of efforts is to make data available over the Internet.	
M1-9.Modify the current structure of the LISS as needed to oversee implementation of the plan.	C	LISS Management Conference	Completed by the end of 1994	Redirection of base program	Complete	The Management Conference has been refocused. The Citizen Advisory Committee has been expanded, the Technical Advisory Committee reestablished, and implementation teams and work groups have continued.	
M1-10.Ensure that the LISS is consistent with existing state coastal zone management (CZM) policies.	C	EPA	Concurrent with the submittal of the plan to the Governors of New York state and Connecticut	Redirection of base program	Complete	The LISS CCMP was judged to be consistent with the state coastal zone management policies.	
M1-11.Incorporate relevant elements of the plan into the state CZM program for federal consistency review.	C	CTDEP NYSDOS	Complete by the end of 1994	Redirection of base program	Substantive Progress	NYSDOS prepared a LIS Coastal Management Plan that incorporated water and habitat quality concerns identified in the LISS CCMP. CTDEP considers the LISS CCMP in carrying out its CZM policies.	
M1-12.Continue to support and enhance data management, analysis and reporting.	R	LISS Management Conference	Ongoing	$200,000 per year	Complete	Data analysis and reporting of hypoxia monitoring by CTDEP, ISC, and NYCDEP have been expanded. A monitoring meeting was held in April 1997 to coordinate the monitoring program and review data analysis, storage, and QA/QC. In addition, a monitoring work group that involves citizen monitoring groups is working on a synthesis report.	.
M1-13.Prepare an annual progress report on implementation including recommendations to redirect efforts.	R	LISS Management Conference	Annually, starting one year after the plan is approved	$35,000 per issue; included under operational costs of LIS	Substantive Progress	An FY95-96implementation report was prepared. Based on CAC recommendations the tacking report has been modified to a table format with direct reference to the CCMP. An Executive Summary and nitrogen loading summaries have also been	The use of a database management program is being investigated for the FY98 report.

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2) Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued

1. SUPPORTING IMPLEMENTATION (CCMP TABLE 50, P. 141)

Action	Type[1]	Responsible Parties	When	Estimated Cost	Status[2]	Description	Upcoming Action
				Office.		added to the report.	

KEY

1)Type: (O)n Going, (C)ommitment, (R)ecommendation, (N)ew (A)ction

2) Status for dated actions: Complete, Ahead of Schedule, On Schedule, Behind Schedule, Partially Addressed, Not Initiated
Status for ongoing programs and actions: Fully Met, Substantive Progress, Partial Progress, Discontinued