Environmental History Fisheries Review

Clinton Harbor/Hammonassett River

A Focus Upon FinFish and Shellfisheries

Summary of the Fisheries of Clinton, Connecticut Project Duration 1985-1987

Abstract:

A fisheries environmental history review was undertaken at the request of the Clinton Shellfish Commission and the Cedar Island Improvement Association. Fishermen and residents had noticed a decline in flounder and oyster recruitment (spat falls) and increases in sedimentation, weed and algae growth. Areas that once had a “hard” bottom were now soft in the inner Clinton Harbor. Hydrogen sulfide smells were reported in both the Hammock and Indian Rivers. Many citizens commented that the harbor water just didn’t look the same.

Key Words:

Barrier Beach; Inlets; Barrier Beach Stabilization; Fisheries Ecology; Restoration Ecology; Fisheries Environmental History; Estuarine Marine Soils; Finfish/ Shellfish Habitat Associations; Flounder and Natural Oyster Beds.

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Sea Grant University of Connecticut Research
Avery Point Campus

Timothy C. Visel – SGMAP – April 1988

Presented to Madison Shellfish Commission, Clinton Shellfish Commission, Cedar Island Improvement Association, Citizens for a Clinton Harbor Plan

This research was supported by the University of Connecticut Cooperative Extension System Storrs, CT and the Connecticut Sea Grant College Program – Avery Point Groton.

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A Summary of the Fisheries of Clinton, Connecticut 1985-1987

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Background

A fisheries environmental history review was undertaken at the request of the Clinton Shellfish Commission and the Cedar Island Improvement Association. Fishermen and residents had noticed a decline in flounder and oyster recruitment (spat falls) and increases in sedimentation, weed and algae growth. Areas that once had a “hard” bottom were now soft in the inner Clinton Harbor. Hydrogen sulfide smells were reported in both the Hammock and Indian Rivers. Many citizens commented that the harbor water just didn’t look the same.

Introduction

An environmental fisheries review looks at the fisheries production from a body of water over a period of time. Such a review looks at fisheries habitats, fishing gear methodology, and catches or relative fisheries abundance. Due to the fact that each body of water, cove, river or bay has distinct characteristics the geology, tidal movement, flushing, storm events and human influence also are examined. Information can include “grey” or unpublished literature, oral histories, interviews, photographs, newspaper articles, historical societies and personal logs or diaries. This was the case in Clinton Harbor. The focus of the study was shellfish and finfish, particularly flounder, which had suddenly declined in the area of Holiday Dock, a popular fishing spot in the Inner Harbor. Flounder fishing from this area had been productive for decades.

Materials and Methods

The materials and methods are divided into two areas-direct field observations and a local literature/oral history search. Field studies were a necessary and important part

of the current situation and brings credibility to the entire process. Resource users who have information about the ecology of a particular bay or cove want to show people "what is happening." It is a direct result of the interest and concern for the resources which can range from beach quality, wildlife and water quality to fisheries and vegetation. This latter area is the most important with the arrival of the invasive plant species in the area in the 1950's. Whenever possible, I included comments of Clinton residents who responded to the local and regional press media. The literature search can be newspapers, written histories – oral histories and events. Shellfish surveys utilized commercial gear or accepted spat collecting/counting techniques or set per bushel counts. Spot surveys or grabs were not utilized as these methods do not provide accurate resource assessments.

Field Observations

Field observations were conducted from small boats, on two occasions made available by Tom Brennan of the Clinton Shellfish Commission and three occasions by Joe Gregerick and Edward Lang, local oysterman. Equipment consisted of a scallop box – a tapered rectangular viewing device associated with inshore bay scallop fisheries, two sections of 6 foot 3/4 inch aluminum electrical conduit pipe (for bottom penetration tests), a hand hauled seed oyster dredge and a long handled small mesh dip net for (collecting vegetation). Water visibility was a factor for the view box and dead low incoming tide was seen as the best time to observe bottom conditions – especially in shallow areas. Five trips were made between Sept. 1985 and August 1987. During the summer observations, more fouling seaweeds were present. The spring and fall showed Harbor bottoms contained much leaf litter. About half of the total leaf litter was oak leaves.

Findings –

Literature Search/Oral History

Several commercial fishermen were interviewed including Jack Andrews, Arthur Lang and George McNeil as well as coastal residents Richard Santanelli, Tom Brennan, Geoffrey Colegrove and David Kaplan. About 20 additional interviews were conducted informally at meetings or by mail or phone. Phil Jackson, former Clinton Shellfish Commission, and Milt

Jeffrey, former member of the Madison Shellfish Commission, also were interviewed. The Clinton Town Hall maintained a vault which contained copies of the Shoreline Times and Clinton Recorder Newspapers dating back to 1880. Many days were spent reviewing newspaper articles which yielded several useful reports (see appendix).

US Fish Commission Reports also were consulted, and Clinton Harbor was written about extensively in section 2 page 321-322. From the 1985-1987 review, it became apparent the Clinton Harbor Hammonassett Region in the vicinity of Cedar Island is a classic Barrier Beach System. Several studies were provided by Dr. Frank Bohlen of the University of Connecticut. Charts of the Harbor detailed historic depths.

From 1860 to 1910, Connecticut's forests were heavily cut and soil erosion into estuaries increased. Additional sediment loads accelerated geologic time and its (the harbor) response to the dynamics of barrier beach inlets. This may have accelerated the opening and closing of a barrier beach inlet at Cedar Island during this period.

Barrier beaches form at the mouth of rivers in response to sediments carried off the land. In times of heavy erosion, barrier beaches tend to grow and eventually split forming a barrier "beach inlet." The inlet relieves the system of sediment loads and tends to "heal" over time. Cedar Island is a classic example of this barrier beach/inlet association. It is a type of "safety valve" so to speak that tends to respond to storm or rainfall events (Frank Bohlen). These events tend to generate sediment loads although historic intense sedimentation in coastal areas can be traced to deforestation and over planting of the "Broom Plant" for export to England. Niantic Bay, for example, had three such barrier beach inlets. Efforts to stabilize them first occurred in 1700's (Olive Chendali Personal Communication).

In Clinton Harbor, the barrier beach inlet was locally known as the "Dardanelles" and references were traced to 1850's when it opened, but it had closed by the time of the Civil War (George McNeil). In 1870, the breach opened and healed by 1888. The blizzard of 1888 opened it again and it was closed by a construction of small groin in 1910, stabilizing to some extent Cedar Island. The 1938 Hurricane reopened the Dardanelles (Arthur Lang and George

McNeil). In 1947, abandoned cars were placed in the beach but were removed as they were swept out (J. Milton Jeffrey Personal Communication). In 1947, boulders were placed to stop the rush of tide, again unsuccessful. The "Dardanelles" were closed for the last time on July 4, 1950 (The Clinton Recorder) by the Army Corps of Engineers dredging spoils (see appendix).

Environmental Fisheries Review

From what I able to learn, during times that the Dardanelles were open, the Inner Harbor was deeper and the bottom firmer, especially in the area of the barrier beach inlet. This makes sense because the Inner Harbor had better flushing and greater tidal action to remove fine sediments. Two accounts (J. Milton Jeffrey and George McNeil) described Outer Harbor eelgrass beds that were nourished by silt coming out of the Dardanelles, often containing bay scallops which from time to time where abundant. When the Dardanelles were closed in 1950, George McNeil described how the eelgrass was "starved" and slowly dried back. Mr. McNeil thought the last time substantial quantities of bay scallops were caught "were in the teens."

After the Dardanelles were closed, the scallops nearly disappeared. In the 1960's, live adult scallops still could be found on Cedar Island, according to Mrs. M. Brown (Personal Communication). We (NOAA and Sea Grant) tried to revive this scallop fishery in 1978 but were unsuccessful. Others changes also were noted. Arthur Lang and George McNeil (Mr. McNeil had moved his oyster business to Clinton from New Haven) stated that sedimentation rates in the Harbor increased after the closing. That also makes sense – periodic opening of the inlet lets accumulated sediments escape in "episodes." This is usually the high tide outlet as most channels in Connecticut are ebb tide. Wave action into the Harbor tends to remove fines and then are swept out by the tide leaving sand and firmer bottoms. These areas supported natural oyster beds in the Hammonassett and Indian Rivers. They can be found on state shellfish maps as "natural beds." George McNeil spoke of a large Indian fyke net or basket fishery in the Indian River for flounder. Clams were found in front of Cedar Island (both hard and soft), and a large bed of soft shell clams once existed opposite Cedar Island Marina at the turn of century. Jack Andrews who operated J & J Lobster market commented that when the Dardanelles were open, much more

flounder were in the Harbor, “You could dig worms at low tide, keep the clams (steamers) and catch founder over the clam beds when the tide returned with the worms.”

J. Milton Jeffrey, former head of the Madison Shellfish Commission, recalled that, although the Inner Harbor was “rougher” with waves he could catch flounder over soft shell beds by the dozens near the Dardanelles. When the opening was closed, “the bottom turned to muck and flounder were gone.” He also caught fluke year after year outside the Dardanelles by using snapper blues as bait. Art Lang agreed but added blue crabs and eels also had declined in the vicinity. George McNeil said that at first, people thought closing the inlet was good, but he saw changes in the bottom almost immediately, and his oysters started to show burial, something that caused him to cultivate more often (burial of oyster beds can quickly suffocate them). George thought because the inlet was closed and so much muck had accumulated, a new channel or erosion on the backside of the Cedar Island would happen.

Field Observations

I had seed oystered on the lower Hammonassett River from 1978 to 1981. The oyster bed was healthy and overgrown. It needed to be cultivated and within two years, some 35,000 bushels of oysters (mostly seed) were harvested. About twice that much were suffocated by organic muck we termed “black mayonnaise,” so we understood about black mayonnaise and how quickly it could kill oysters. I didn’t know much about the history of the fisheries in Clinton Harbor at the time of the seed oyster harvest. Most of the information was discovered during the fishery history review.

Apparently, in 1901, the US Fish Commission wanted to build its first clam hatchery in Clinton, due to on the huge soft clam bed adjacent to Cedar Island (they chose Milford instead). The flats were located north of the eastern tip of Cedar Island. From newspapers accounts, the beds were tremendous (see 1903 Clinton Recorder article), Clinton also was considering aquacultural leasing but that proved to be controversial. The clam flats were exposed at mid tide (George McNeil). George McNeil commented that he recalled people telling him about clam flats, but he suggested that dredging the harbor channel had removed much of the flats. He also told of flounder in the river but he

felt they had declined also. He had noticed this by the amount of the flounder that came up in his oyster dredge. In the 1960's, they would get 3 to 4 bushels a week. By the time he stopped oystering, it was only one or two flounders per day. George also told me that a healthy oyster bed was good for flounder as he believed the shell cover created hiding spaces for young flounder. In a shellfish survey with Tom Brennan, of the Chairperson Clinton Shellfish Commission, we revealed that much of the oyster bed in the lower Hammonassett River was dead. From examinations of the shell base, oysters had been suffocated by silt and organic debris. Only a few living oysters were dredged and showed nearly complete burial. In areas where we could see bottom, a large growth of sea lettuce was observed in areas that once contained eelgrass beds. Sea lettuce growth is enhanced by nitrogen pollution. This has been documented by oyster growers in Rhode Island and on Cape Cod. It was clearly evident that large sections of the oyster bed was buried or near burial. Bottom conditions showed tremendous amounts of terrestrial debris, mostly sticks branches and large amounts of oak leaves. According to Mr. Brennan, the channel depth to the first bend of the Hammonassett River was 2 to 3 feet less. (Will this concern the marinas?) Pictures were taken of the dead oysters being covered by oak leaves. We saw hundreds of two year oysters that were dead with paired shells. No oyster drills or starfish were observed. In some areas it took 10 to 15 tows to remove the accumulation of leaves before we noticed the dead oysters.

Why the Review?

By 1983, I returned to Connecticut from two years of employment with the University of Massachussetts as their Marine Resource Specialist. In 1985, I obtained a call from Jack Andrews, the owner of J& J Lobster where I had kept my lobster skiff from 1972 to 1979. He said that something bad was happening to Clinton Harbor – could I come down and look. I said certainly; at that time I was working at UCONN as the Sea Grant Marine Extension Specialist. When I arrived, the water was full of floating green weed and the water was brown with algae. Jack Andrew showed me this weed and asked about it. The Shellfish Commission also reported declining oyster catches, and huge amounts of black mayonnaise were covering the oysters (Tom

Brennan, Joe Gregerick and Ed Lang). I then began this review.

Summary and Suggestions

Apparently, the Hammonassett River had an intense sediment load perhaps washed down river from Hurricane Gloria in 1985. That was just north of the Cedar Island Marina wood bulkhead. The Dardanelles almost reopened at that time but didn't. The oyster bed survey and observations with the "Scallop looker" yielded the results I had seen in Rhode Island and on Cape Cod, I was very surprised to see these conditions in Clinton Harbor, the harbor I had spent a decade on. Pipe penetration tests yielded 5 feet of organic debris covering the oyster beds I had fished just a few years earlier. We also noticed hot spots on the eelgrass across from Cedar Island Marina at low tide that were warmer and held no eelgrass; it looked like the eelgrass beds had chicken pox. Scallop box observations showed large amounts of salt grass but mostly leaves oak and stems of phragmities plants covering the bottom. The bottom looked like some of the eutrophied salts ponds such as Green Pond, I had seen on Cape Cod. Black mayonnaise was everywhere. And at low tide, Jack Andrews told me the Harbor started to smell. He had never smelled the Harbor that bad before. It was the characteristic hydrogen gas "rotten egg" smell.

George McNeil, who had run his oyster business in the River since 1931, told me the River was "choking to death." Nutrients from storm water were causing blooms of never-seen-before weeds and algae. It was George and Jack that suggested that closing the inlet (Dardanelles) was a mistake and the Harbor needed "to breath." Ed Lang, who had also started oystering, described it as a cesspool that needed flushing. It was being choked to death with several feet of leaves. If that was true I needed aerial photographs of the system. If George McNeil was correct and "sediments were trapped in the system," it would show on overhead photographs.

Dan Civco of UCONN provided many over-flight photographs, and the photographs confirmed what George McNeil described. They showed an enormous amount of sediment trapped within the Hammonassett system all the way up to Route One. George estimated that since the 1930's, the River depth was

10 to 15 feet less, especially in the area of the Dardanelles. Although Gloria didn't reopen the barrier beach inlet, he predicted that when it did reopen, it would be "catrostophic." Although I had learned about the breachways in salt ponds when I worked for the University of Rhode Island, I do know that when barrier beaches (inlets) are closed, the periodic events tend to show as large "corrections." He predicted the northern tip of Cedar Island closest to the channel would be swept away. There is some evidence in barrier beach ecology that the high tide (inlet) carried sediment at highest velocity but at middle and lower tides tended to follow the lower tide or "ebb channel." In times of storm events, the new inlets are often cut halfway between the old historical high tide inlet (the Dardanelles) and the "ebb tide channel." The new inlet could be in the middle of what we know as Cedar Island. We have evidence of that in Niantic Bay (pre-railroad) and that's what concerned the Cedar Island Improvement Association. Barrier beach islands and inlets are dynamic, and the carrying capacity for suspended solids is directly related to water velocity.

George McNeil felt that the build up of sediment would slowly push the high tide flow closer to the tip of Cedar Island. That could cause the section of the Island to slowly disappear. If an event as he put it happened "at high tide," all that water and sediment had no quick way out, so it would make a "short cut" east of the historic "Dardanelles."

Possible corrections and suggestions made to Tom Brennan's group – Slide Presentation (see letter).

1) The Hammonassett River/Clinton Harbor appeared to be suffering from nitrogen/nutrient pollution may need to collect nitrogen/water quality data possibly develop a citizen's monitoring program like Alewife Cove? Madison has seen bacteria counts at public beaches inch up over time - in the 1960's single digits, 1970's 20 to 30 plate count, in the 1980's, it jumped again. Clinton may need to establish (perhaps with High School) water quality bacteria testing – High School student interns. Studies need to be long term especially if run-off is washing nitrogen downstream. Hammonassett River appears to be going from mesotrophic to advanced eutrophic conditions. Check nitrogen and fall phosphate flush in water quality

monitoring program. Does the Clinton Sanitarian have bathing beach test results? Should be charted over time to show trend.

2) Investigate the possibility of a small reopening of the Dardanelles Inlet – increase tidal flushing especially if high nitrogen was detected. Reduce sediment loading – the nitrogen problem should be part of a larger study.

3) Begin a study of cultch planting to determine:
   a. If local oyster sets were still occurring – most of the shell base was buried.
   b. Detect and monitor flounder – Ask Wayne Castonquay about this at DEP. Pipe penetration tests revealed that in some areas approximately two feet of oak/maple leaves had covered oyster beds. Evidence in the scientific literature exists that correlates to flounder fin rot disease with a oak leaf litter which tends to have an acid pH. Mud bottoms with low pH typically have lower flounder populations than substrates with a basic or more alkaline pH (reference Peter Auster Study in New Haven Harbor).

4) Bring a shellfish restoration proposal to the Coves and Embayment Board – (run draft by Sally Richards first; she lives in Guilford Little Harbor's laboratory. The Hammonassett had natural historic oyster beds that were now buried by muck and leaves – that could be documented – impact of street runoff?

5) Try to remove fouling sticks and leaves with a routine cultivation schedule (willipa pasture type cultivation). This might require paying oystermen or a cooperative agreement with local shellfishermen. That could bring buried black shells to the surface to catch an oyster set (Clyde Mckenzie NOAA).

During the months of July and August 1987, this information was presented to the Cedar Island Improvement Association and Clinton Shellfish Commission.

Discussions continued until 1988 – Submitted Environmental Review April 20, 1988.

Copy to Norman Bender SGMAP
(Narrative Accomplishment Report File)

Clinton Harbor Environmental Fisheries Review 1985-1987

List of Agencies

1) Letter Requesting Historical Review of Fisheries

Cedar Island Improvement Association July 26, 1987
Meeting.

Suzanne Mattei, CT Fund for the Environment 4/30/88
Citizens for A Clinton Harbor Plan – April 29, 1988, August 16, 1988

Clinton Shellfish Commission – Water Testing June 12, 1987

2) History – Geology Tidal Oyster Clam Bay Scallop

Dardanelles – Articles July 6, 1950 Clinton Recorder
Clam Culture Clinton Harbor Jan. 23, 1903 Clinton Recorder
George Goode 1887 Clinton Section Oysters
Bay Scallops SGMAP Dec. 8, 1978

3) Public Hearing November 12, 1987 – Suggestions for Further Studies
DEP Report – 2 Pages A + B (Presented at Hearing)

Historical Shellfisheries of Clinton Connecticut – 4 Pages Presented at Hearing) - Tim Visel
Officials and Harbor Channel unlikely Nov. 14, 1987
Doubts Expressed about Reopening of Dardanelles
SLT – Nov. 26, 1987
Board of Selectman Public Meeting Notice
Barbara Swan Memo – August 11, 1987

4) Environmental Articles

Town of Madison – Water Quality Concerns April 14, 1984 (Selectman's Office)
Clinton Harbor Shellfish Tainted
Thick Green Seaweed July 20, 1981
Clinton Harbor Plagued with Slimy, Green Algae- New Haven Register, August 9, 1987
Channel May Turn the Tide for Shellfish Beds HC, June 26, 1987
Connecticut Harbor Plagued by Pollution Soundings – Feb 1988
Branford Review August 10, 1988 - Gloria Debris Blocks River

5) New File (Shellfish Program) to 1994

Shellfish Beds Dimmed by Black Mayonnaise CR May 17, 1988
State Officials Push Estuary Program – HC August 18, 1988
Citizens for A Clinton Harbor Plan – Nov. 1988
Residents Move to Restore Oyster Beds in River HC Oct. 19, 1992
Official Opposes Shellfish Plan
Clinton Harbor Cove and Embayment Plan
Shore Towns Grapple to Review Riches New York Times Feb. 21, 1993
Coastal Embayment Board Disbanded

Channel may turn the tide for shellfish beds

By SAM LIBBY
Courant Correspondent

At the shore

CLINTON — At the turn of the century, the shellfish taken from Clinton Harbor were widely renowned. They were relished from the finest restaurants of New York to the roughest saloons west of the Mississippi.

A survey of the Connecticut fisheries made in 1880 reports: "A fair 'set' [of oysters] occurs in Clinton Harbor every year. The quality is most excellent.... The annual production of this stock amounts to 2,000 bushels ... the harbor's oyster industry is divided among fifteen planters, and affords a partial livelihood for perhaps a score of families."

In 1987, the oyster and scallop industries in both the inner and outer harbors are shut down. This year, the harbor will be unable to yield even one bushel of uncontaminated shellfish, local shellfish commissioners say.

The problem results from a lack of cleansing tidal action in the harbor and from the presence of sewage and other pollutants, marine biologists say. Marine scientists have known about the pollution problem for some time.

In 1978, the University of Connecticut's Sea Grant Marine Advisory Program attempted to restore scallops to the harbor. Ten thousand juvenile scallops were placed in the harbor. Nine years later only a few have survived.

Timothy Visel, a marine agent for the UConn program, says he believes that the failed attempt shows that something is fundamentally wrong with the Clinton Harbor ecosystem.

"We are seeing a piecemeal destruction of estuary and coastal habitats which has already resulted in a 90 percent decline in the amount of oysters in [Long Island] Sound. If habitat loss continues, efforts to restore these marine resources will be futile," Visel said.

But Visel said he does not think it is too late to do something about the problem. The sea grant program can begin to restore oyster and scallop populations — and revive the shellfish industries — by a simple piece of engineering: re-opening a harbor channel once known as "the Straits of Dardanelles," Visel said.

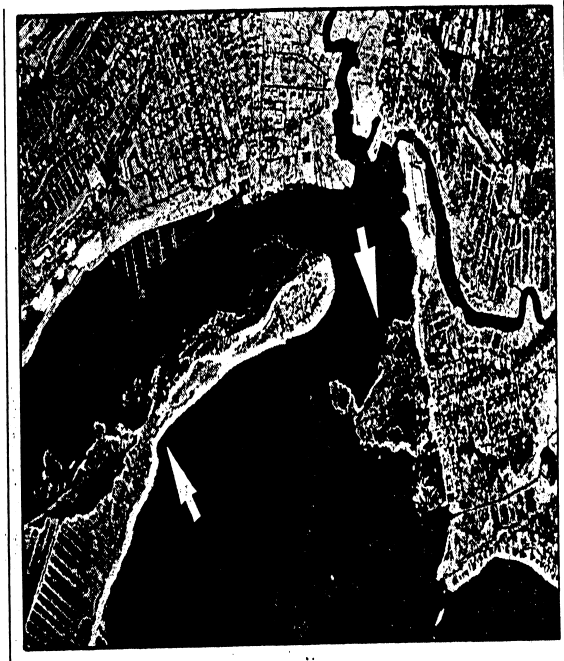
The straits — a natural inlet to the harbor — were closed in the 1930s

See Solution, next page

The problem in Clinton harbor

■ The closing of the Straits of Dardanelles in Clinton harbor has allowed pollutants to choke off shellfish beds that once supplied oysters for New York's finest restaurants and were shipped west of the Mississippi River.

■ This 1934 photo shows a harbor channel called the Straits of Dardanelles. The channel allowed tides to flush the harbor of organic debris that are lethal to shellfish.



■ This recent photo of the harbor illustrates how the former straits have been closed. The shaded area to the right of the harbor entrance is organic debris that has built up over the past 50 years. The so-called "black mayonnaise" — lethal to shellfish — is under shallow water.

Photos courtesy of Daniel Civco, Remote Sensing Lab, University of Connecticut

The Hartford Courant

THE UNIVERSITY OF CONNECTICUT
COOPERATIVE EXTENSION SERVICE
SEA GRANT MARINE ADVISORY PROGRAM

Avery Point Campus, Groton, CT 06340 Telephone: (203) 445-8664 or 446-1020 Ext. 234

April 20, 1988

I want to thank you for taking the time to discuss the Straits of Dardenelles, and observations of Clinton Harbor last fall. As you can see from the enclosed Winter 1988 Newsletter several state and federal agencies presented information during the November 12 public meeting.

I have enclosed my comments you requested for your review,

Thanks again for your assistance,

Sincerely yours,

Timothy C. Visel

Marine Extension Agent
Fisheries/Aquaculture

enc.
TCV

THE UNIVERSITY OF CONNECTICUT
COOPERATIVE EXTENSION SERVICE
SEA GRANT MARINE ADVISORY PROGRAM

Avery Point Campus, Groton, CT 06340 Telephone: (203) 445-8664 or 446-1020 Ext. 234

Date: June 12, 1987

To: Phil Jackson, Clinton Shellfish Commission
James E. Vance, Clinton Shellfish Commission
Frank Westerberg, Clinton Shellfish Commission

From: Tim Visel, Regional Marine Extension Specialist

Subj: EPA Study of Long Island Sound and Project Oceanology Cruises

Please find attached notice from Dr. Howard Weiss and Dr. Martin Garrel regarding Project Oceanology cruises. Since the Clinton Shellfish Commission has performed extensive water quality testing in the recent Clinton Harbor shellfish closure, you may wish to attend the cruise on June 22 from 3:30 to 6:30 p.m.

Please call Project Oceanology as soon as possible to reserve a space on the ENVIRO LAB. The number is 445-9007.

I hope to see you there.

TCV/doc

cc: H. Weiss

CEDAR ISLAND IMPROVEMENT ASSOCIATION

July 21, 1987

Mr. Timothy Visel
University of Connecticut Sea
Grant Marine Advisory Service
Avery Point Campus
Building #24
Avery Point
Groton, CT 06340

Dear Mr. Visel:

On behalf of the members of the Cedar Island Improvement Association, (some 52 home owners) I would like to extend an invitation to speak at our adjourned annual meeting to be held on July 26, 1987 at 10:00 a.m. The news article that appeared in the June 26, 1987 issue of the Hartford Courant generated considerable discussion concerning the shellfish industry that once flourished in Clinton Harbor. A number of our members were residents of Cedar Island prior to the closing of the Dardanelles and have witnessed the profound changes that have taken place since then.

We are looking forward to meeting with you and exchanging ideas that might make shellfishing in Clinton Harbor more productive. I will pick you up at 9:00 a.m. at "Fettigs Dock", just west of George McNeil's house.

Thank you for your favorable consideration of our request.

Very truly yours,

Geoff (JES)

Geoffrey L. Colegrove
President

GLC/jes

THE UNIVERSITY OF CONNECTICUT
COOPERATIVE EXTENSION SERVICE
SEA GRANT MARINE ADVISORY PROGRAM

Avery Point Campus, Groton, CT 06340 Telephone: (203) 445-8664 or 446-1020 Ext. 234

DATE: September 23, 1987

To: Norm Bender

From: Tim Visel

I have compiled a brief file of the information regarding Clinton Harbor and its marine resources. Some of the materials date back to a N.M.F.S. transplant of scallop seed in 1978.

Also enclosed are some historical references concerning past soft shell clam harvests (Clinton at one time was the second highest producer of soft shell clams) and a productive oyster industry. A bureau of Labor Statistics map (1889) shows the Hammonasset River and inner harbor as one of the largest public natural oyster beds in the state.

From my experiences with local fishermen and the Shellfish Commission the overall abundunce of flatfish and shellfish has declined. Water quality has also declined as witnessed by recent Connecticut Department of Health closures. Area residents have also noticed these changes and a loss of shellfishing opportunities. I hope this information will be of some assistance with your upcoming meeting with Clinton officials.

THE UNIVERSITY OF CONNECTICUT
COOPERATIVE EXTENSION SERVICE
SEA GRANT MARINE ADVISORY PROGRAM

Avery Point Campus, Groton, CT 06340 Telephone: (203) 445-8664 or 446-1020 Ext. 234

October 20, 1987

Mr. Paul Stacey
Connecticut Department of Environmental Protection
Water Compliance Unit
122 Washington Street
Hartford, Connecticut 06106

Dear Paul,

I have enclosed the Clinton Harbor article that appeared in the Hartford Courant you requested. I have also enclosed some historical references pertaining to Clinton's shellfisheries. At one time Clinton was a leading producer of soft shellclams and a substantial oyster fishery existed in the inner harbor. Increased development of adjacent upland may have degraded estuarine habitats and restricted the ability of the inner harbor to cleanse itself of source and non point source bacterial contamination. The outer harbor area is now closed to direct shellfish harvesting not unlike other coastal communities.

It was good seeing you recently and if you have any questions pertaining to the enclosed, please give me a call.

Sincerely yours,

Timothy C. Visel
Marine Extension Specialist

TCV/nlb

Enc.

C. C. H. P.

CITIZENS FOR A CLINTON HARBOR PLAN

Board of Directors:
Anita Carelli Clinton
Cora Howard Clinton
Donald Camper Cedar Island
Alan Skinner Cedar Island

Press Secretary:
Lesley Harrington
71 Commerce Street
Clinton, CT 06413
669-5493

August 12, 1988

Mr. Timothy C. Visel
Marine Resource Specialist
UConn, Avery Point
Groton, Conn. 06340

Dear Mr. Visel,

I represent a group of concerned citizens pledged to the preservation of Clinton Harbor as a resource for all forms of recreation. As you know, the water quality of this harbor has deteriorated over the last decade, making most forms of recreation unpleasant if not dangerous.

My group feels the harbor is in immediate danger of becoming more contaminated with the proposal of marina expansions.

Please assist us by making available all of the information you have concerning historical shellfishing in Clinton Harbor.

Very truly yours,

Diane Brennan

Diane C. Brennan
Member - CCHP

PROTECTING OUR ENVIRONMENT

Tim Visal
Uconn Sea Grant/ Marine Advisory Program
Uinversity of Connectcut
Avery Point Campus
Groton CT

4/30/88

Dear Mr. Visal:

It has just been brought to my attention that you might have information as to the habitat of oyster and flounder as pertains to the coastal area of the Town of Clinton, Ct. Our group has been actively involved in this area. We would appreciate any information that you could send to us that addresses this topic. Thank you for your time and consideration.

Sincerely yours,

Suzanne Mattei
Director
Connecticut Fund for the Environment
152 Temple Street Rm. 321
New Haven, CT