SHELLFISH AQUACULTURE LEASE PROGRAM IN PECONIC BAY AND GARDINERS BAY SUFFOLK COUNTY, NY

Steve Levy
County Executive

FINAL GENERIC ENVIRONMENTAL IMPACT STATEMENT

Prepared for:
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September 3, 2008

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SUFFOLK COUNTY DEPARTMENT OF PLANNING

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Lead Agency

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Suffolk County Aquaculture Lease Program Advisory Committee
(*ALPAC*)

Committee Members

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Wayne L. Grothe	The Nature Conservancy
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Lt. David Lessard	Town of Riverhead
James McMahon	Town of Southold
Gregg Rivara Christopher F. Smith *(Alternate)*	Cornell Cooperative Extension of Suffolk County
Karen Rivara	East End Marine Farmers Association
Cornelia G. Schlenk	New York Sea Grant Institute
Hon. Jon S. Semlear Hon. Edward J. Warner, Jr.	Town of Southampton (joint appointment)

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Section 1: Introduction

1.1 Overview

This document is the Final Generic Environmental Impact Statement (FGEIS) for the proposed Suffolk County Shellfish Aquaculture Lease Program in Peconic Bay and Gardiners Bay. The proposed program is being prepared pursuant to New York State Environmental Conservation Law §13-0302 (2004 Leasing Law) which ceded to Suffolk County underwater lands in Peconic Bay and Gardiners Bay seaward of the 1,000 feet from the high water mark for the purposes of shellfish aquaculture. This FGEIS has been prepared in accordance with Section 8-0109 of the New York State Environmental Conservation Law (the State Environmental Quality Review Act, SEQRA) and the implementing regulations of SEQRA at 6NYCRR part 617, including the specific provisions which relate to the content of final environmental impact statements contained in 6NYCRR§617.9(b)(8).

This program has been identified as a Type I action and Suffolk County is the lead agency. The County issued a positive declaration pursuant to SEQR, thereby indicating the potential for one or more significant environmental impacts and requiring that an Environmental Impact Statement be prepared. Due to the nature and scope of the project a Generic Environmental Impact Statement was found to be most appropriate.

The Draft Generic Environmental Impact Statement (DGEIS) dated March 19, 2008 was prepared for the proposed program. At its March 19, 2008 meeting, the Suffolk County Council for Environmental Quality (CEQ) accepted the DGEIS as complete with respect to its scope and content for the purposes of commencing public review, in accordance with 6NYCRR§617.9(a)(4). The DGEIS was subsequently circulated for review, and to solicit comments from interested agencies and the public, pursuant to 6NYCRR§617.12. The public review period was for 30 days and ended on May 1, 2008.

A public hearing regarding the DGEIS was held by CEQ on April 17, 2008 in accordance with 6NYCRR§617.9(a)(4). A total of 15 speakers provided comments. The public comment period was held open for a period of 10 business days following the hearing to allow the opportunity for further written commentaries. A total of 14 parties replied via written correspondence.

Following the issuance of the Notice of Completion by CEQ, this FGEIS will be circulated in accordance with the requirements of 6NYCRR§617.12. Before issuing its findings and subsequently taking action, SEQRA provides the County a minimum period of 10 days for agencies and the public to consider the FGEIS. The Suffolk County Council on Environmental Quality has extended this period up to 30 days.

1.2 Incorporation of DGEIS into FGEIS Document

Pursuant to 6NYCRR§617.9(b)(8), the March 19, 2008 DGEIS is incorporated by reference into this FGEIS. Interested parties should request a copy or arrange to review the March 19, 2008 DGEIS by contacting the Lead Agency's contact person identified on the inside cover page of this document.

1.3 Content and Finding of DGEIS

The DGEIS was prepared by Suffolk County Department of Planning with assistance from Cashin Associates, P.C. of Hauppauge, New York. The DGEIS consists of all required chapters including: Executive Summary; Introduction; Description of Proposed Action; Underwater and Surface Water Uses; Environmental Setting, Impacts and Mitigation; Alternatives; and Cumulative and Growth Inducing Impacts. Specific environmental topics include: Natural Resources; Socio-Economic and Cultural Impacts; Transportation; Visual Setting; Use and Conservation of Energy; Solid Waste Management; Acquisition of Land; Ground Water Resources; and Air Quality.

There are several major additions to the DGEIS incorporated into this FGEIS: an updated version of Section 2.6-Components of Proposed Lease Program (Appendix A); an additional literature review of impacts associated with hydraulic shellfish dredging (Appendix E); an Essential Fish Habitat evaluation (Appendix F); a revised version of the Shellfish Cultivation Zone Map (Appendix G); and maximum acreage that could be leased in the program given various assumptions (Appendix H). These additions are included as part of the response to issues raised during the public review of the DGEIS.

1.4 Purpose of the FGEIS

This FGEIS, in conjunction with the DGEIS, is intended to provide Suffolk County, the lead agency and primary decision-making body relative to the proposed action, with necessary information relating to potential environmental impacts associated with adoption of the Shellfish Aquaculture Lease Program in Peconic Bay and Gardiners Bay. This information will also facilitate a determination by the Suffolk County Legislature as to whether the program should be adopted as currently proposed.

1.5 Scope and Content of the FGEIS

The primary objective of this FGEIS is to address substantive comments that were raised during the public review of the March 19, 2008 DGEIS. Section 2 of the FGEIS identifies all substantive verbal and written comments received by the Lead Agency and provides a response to each, conforming to the specific requirements set forth under 6NYCRR§617.9(b)(8). The comments that are addressed in this FGEIS were made or submitted either at the public hearing held by CEQ on March 19, 2008, the public review hearing held on April 17, 2008 or received as written correspondence within the designated written comment period.

Section 2: Responses to Substantive Comments

2.1 Introduction

This section of the FGEIS provides responses to substantive comments compiled by the Lead Agency, Suffolk County, during the public review phase of the Shellfish Aquaculture Lease Program in Peconic Bay and Gardiners Bay SEQR process. As stated previously, commentaries relating to the DGEIS include the following:

- Verbal testimony presented at the March 19, 2008 CEQ meeting;
- Verbal testimony presented at the April 17, 2008 public hearing; and
- Written correspondence submitted at the public hearing or prior to the close of the comment period on May 1, 2008.

The CEQ reviewed the DGEIS on March 19, 2008 to determine its completeness with respect to all SEQRA requirements. The transcript from this meeting is provided in Appendix B. Also, a total of 15 individuals commented at the April 17, 2008 public hearing for the DGEIS; and the transcript for that meeting is provided in Appendix C. Additionally, 14 parties responded by separate written correspondence, received during the scheduled comment period. Copies of the written responses are provided in their entirety in Appendix D.

This FGEIS addresses "substantive" comments in accordance with the content requirements of SEQR (6NYCRR 617.9(b)(8)). The FGEIS generally does not attempt to address comments that do not have relevance to the identification and evaluation of environmental or socio-economic impacts and the formulation of suitable mitigation measures, which are essential to the decision-making process for the proposed action, or comments which concur with or object to the proposed action without elaboration. Such substantive comments have been incorporated into the SEQR record and are provided in the Appendices of this FGEIS.

To avoid unnecessary repetition, several broad categories or topic headings were created and the substantive comments were grouped under appropriate topic heading in the FGEIS. These topics include:

- Land Grants (LG);
- Hydraulic Dredging (HD);
- Environmental and Socio-economic Sensitive Areas (ESSA);
- Draft Generic Environmental Impact Statement (DGEIS);
- Shellfish Cultivation (SC);
- Lease Areas (LA);
- General Comments (GC);
- Marine Habitat (MH);
- Shellfish Management (SM);
- Shellfish Sanitation (SS); and
- Finfish Issues (FI).

In order to facilitate review of the FGEIS by interested parties, each comment whether stated at the public hearing or as a written document, or other form of correspondence

was assigned an identifying letter (for example, "PH" identifies a comment made at the public hearing). At the end of each comment in Section 2 of the FGEIS, one or more of these identifying letters are listed to indicate where the comment originated. The comment codes are as follows:

Table 1 – Correspondence Codes

Code	Commentator	Type of Correspondence and Date
CEQ	SC Council on Environmental Quality (see attached transcript)	Verbal comments by the CEQ committee, March 19, 2008
PH	Public Hearing Comment (see attached transcript)	Verbal comments from 15 individuals during the public hearing held on April 17, 2008.
AL	Town of East Hampton Baymens Association (Arnold Leo)	Letters to Suffolk County Department of Planning, April 3, 2008 and April 17, 2008
WP	Winergy Power, LLC	Letter to Suffolk County Department of Planning, April 14, 2008
GR	Cornell Cooperative Extension of Suffolk County (Gregg Rivara)	Email sent to DeWitt Davies, April 18, 2008
DB	NYSDEC (Debra Barnes)	Letter to DeWitt Davies, Suffolk County Department of Planning, April 22, 2008
KR	Aeros Cultured Oyster Company (Karen Rivara)	Letter to DeWitt Davies, Suffolk County Department of Planning, April 29, 2008 and email sent to DeWitt Davies on April 25, 2008
NSBA	North Shore Baymen's Association	Letter to Suffolk County Department of Planning, April 27, 2008
JA	Town of East Hampton (John Aldred)	Email sent to DeWitt Davies and Gregory Greene, April 28, 2008
PW	Peter Wenczel	Letter to Suffolk County Department of Planning, April 30, 2008
PB	Peconic Baykeeper (Matthew Atkinson)	Email sent to Tom Isles, Suffolk County Department of Planning, May 1, 2008
NSA	North Sea Aquafarms (Philip Curcio)	Fax sent to DeWitt Davies, Suffolk County Department of Planning, May 1, 2008
GEE	Group for the East End	Fax sent to Suffolk County Department of Planning, May 1, 2008
DEC	New York State Department of Environmental Conservation	Letters to Suffolk County Department of Planning, May 12, 2008 and June 24, 2008

2.2 Land Grants

Comment LG-1
Permits issued by the NYSDEC that allow cultivation of species other than oysters on underwater land grants are not legal. (PH) (NSBA)

Response LG-1
It is not the objective or responsibility of the DGEIS, this FGEIS or the County to determine whether the NYSDEC is legally authorized to permit the cultivation of other species of shellfish besides oysters on existing land grants. However, the NYS 2004 Leasing Law does give the County the authority to allow access to underwater lands in support of and to promote shellfish cultivation. Therefore, under the County's program, any existing commercial aquaculture enterprise legitimately operating on an underwater land grant, which has been allowed by any governmental body to cultivate other species of shellfish besides oysters, must be evaluated on a case-by-case basis to determine whether the entity can participate in the County's program and what the limitations on aquaculture activities will be.

Comment LG-2
Underwater land grants should not be included in the Lease Program because they were originally issued on productive wild stock areas and are therefore illegal. (PH) (NSBA)

Response LG-2
According to the New York State Legislature as adopted in NYS ECL §13-0302, "The grant of lands under the waters of Gardiners and Peconic Bays, by the Commissioners of Shellfisheries, in accordance with the provisions of Chapter 385 of the Laws of 1884, as amended, subsequently held and used by the grantees, heirs, successor, and assigns on which all taxes and assessments have been paid, are hereby ratified and confirmed. Any underwater lands in Gardiners and Peconic Bays previously granted that revert or escheat to the State or are subject to tax deed by the County of Suffolk shall be available to the County for leasing pursuant to this section." It is not the intention of this program for the County, the DGEIS or this FGEIS to determine whether the issuing of these underwater land grants in the late 1800s to early 1900s was legal or not. Currently, under State Law the privately owned grant lands have the right to cultivate shellfish and as such the County recognizes that right.

Comment LG-3
In Section 2.6 component #3, it is stated "Leases on underwater lands not currently used for aquaculture will be 5 or 10 acres" and Section 2.6 component #27 states "Owners of grants can apply under the County Lease Program to overlay a lease on the entire grant or a portion thereof." Then in Section 4.2.3.3 it is stated "The rationale for overlaying leases on the entire acreage of an oyster grant is that they are permitted by law to bottom-culture oysters." The County Lease Program should not allow the overlaying of leases on grant lands that are not currently permitted by the NYSDEC to culture shellfish other than oysters. (AL) (PH)

Response LG-3
Based on input received from the ALPAC committee, CEQ and the public, the recommendation suggested in LG-3 and part of Section 2.6 of the DGEIS has been modified. An oyster grant holder can apply for a lease on his/her grant, or a portion of which, if the owner can document a prior historical or current use of the grant for shellfish aquaculture. Grants with title conflicts will not be eligible for a lease until the conflict is resolved by the grant holder. If a grant has been fallow (i.e. if no shellfish aquaculture activities have been conducted for the past 10 years), it can enter the Lease Program in a limited phased process (i.e., a 5 to 10-acre lease). Leases on fallow grants shall not exceed two 10-acre leases for the first five years of the Lease Program, at which time a review of the Lease Program by the County will determine if the lease on the former fallow grant may be expanded. Leases on fallow grants will be subject to the full application process, including public review, and will only be approved based on the findings of that process.

Comment LG-4
Consistent with the Peconic Bay Aquaculture Advisory Report, leases should be no more than 50 acres for on-bottom culture regardless of total acreage of grant land. Oyster grant holders should be phased up to 50 acres upon satisfactory demonstration of use of lease and justification for this scale of culture operation for species other than oysters. Oyster grant lands that have not been used for culture of other species within five years should be subject to benthic survey requirements as apply to new lease sites. Establishing a limit on acreage for grant lands will reduce user conflicts and potential impacts from harvest gear and be more consistent with the overall framework for the proposed leasing program in Peconic Bay and Gardiners Bay. (DB)

Response LG-4
Because of past controversy involving the legality and rightful ownership of the underwater land grants, incorporating or considering grants for inclusion into the County's program will be a very difficult task. Part of the difficulty includes: determining rightful ownership; whether the grants have been sufficiently active or fallow; and based on this current activity analysis what relevance does this determination hold when considering a grant for inclusion into the County's program. A further complication in this attempt to include the grants in the County's program is the existing practice by the NYSDEC of permitting some of these underwater grants to cultivate other species of shellfish besides oysters. It would not be in the best interest of this program or possibly even an unconstitutional taking, to limit grant owners cultivation up to 50-acres when permission has been given by the NYSDEC to cultivate shellfish species other than oysters and owners have been actively doing so on all or part of their underwater parcel which may be greater than 50-acres. Due to past actions of permitting shellfish aquaculture on land grants by the NYSDEC, this type of newly imposed restriction to shellfish cultivation (no more than 50-acres) is no longer viable on some underwater parcels and therefore, acreage to be leased on a particular grant should more appropriately be based on whether a grant has been active or fallow

Comment LG-5
Fallow oyster grants located in Gardiners Bay comprise approximately 2,000 acres of underwater lands. These grants should not be included in the leasing program due to established commercial finfish, crustaceans and whelk fisheries and natural hard clam beds which have been documented on oyster grant lands in the area. (DB)

Response LG-5
All grant owners seaward of the 1,000 foot high tide mark will be considered for inclusion into the program to cultivate shellfish species other than oysters. However, as described in Response LG-3 above, each grant's potential for inclusion may depend on but not be limited to location, past and current activity, and proof of ownership. As far as the inclusion of the grants in Gardiners Bay, the NYSDEC in 2007-2008 issued 12 shellfish cultivation permits to owners of underwater land grants of which 2,565.5-acres are seaward of the 1,000 foot buffer zone. Of those acres, approximately 1,035 acres are located in Gardiners Bay and of that only one 205-acre parcel was permitted to cultivate shellfish other than oysters. This parcel is the only parcel located in Gardiners Bay that will be considered eligible to acquire a lease on the entire parcel. Any other grant will have to enter the program on a limited basis and will be required to go through the permitting process as if it were a new lease (see LG-6 Response below). However, it should also be noted that all of the underwater land grants are permitted by State Law to cultivate oysters and do not need to participate in the County's program to do so.

Comment LG-6
A lease holder may have to fallow their grant or portions of their grant, to combat disease or discourage predators. This fallowing period is about a maximum of 5 years and this type of fallowing would give a "reasonable timeline." This type of fallowing should not be considered inactive. (KR)

Response LG-6
Based on input received from the ALPAC committee, CEQ, the public, and the recommendation from Comment LG-6 of this FGEIS, Section 2.6 of the DGEIS will be modified in this FGEIS in Appendix A as follows:

Component 15. <u>Minimum Levels of Performance for Lease Holder</u> is amended to include the statement: "In evaluating performance, beds used in a rotation system of shellfish production, where some beds are actively farmed, while others are rested for various reasons, such as predator control and bottom preparation for re-seeding, all such beds shall be considered as actively farmed."

Component 27. <u>Lease Establishment on Active Grants</u> is amended to include the statement: "It is noted that shellfish farmers growing shellfish species other than oysters on their grants may have instituted a bed rotation system. Under such a system, some beds may be actively farmed, while others are rested for various reasons, such as predator control and bottom preparation for re-seeding. In such cases, all of the beds will be considered active, since they are part of the shellfish production system for the respective grants involved."

2.3 Hydraulic Dredging

Comment HD-1
Hydraulic dredging is objectionable and its use will result in long term damage to public bottom land. Hydraulic dredging should be banned from this program. (PH), (CEQ), (NSBA)

Response HD-1
Section 4.1.2.2, Harvest of Shellfish (pg. 199-204) not only references the activities and impacts of the Frank M. Flowers & Sons operations but goes on to describe a range of dredging techniques and cites various scientific studies on both the short term and long term effects of this harvest method on shellfish cultivation conditions. Section 4.1.2.7 (pg. 207-212) addresses the issue of sediment suspension and turbidity associated with mechanical harvesting practices. Numerous works of scientific literature were cited in this section discussing the localized effects of dredging on flora and fauna. A further review of potential impacts associated with shellfish harvesting through the use of hydraulic dredges is presented in Appendix E. The Lease Program is to provide access to underwater lands, it is not the intent of the program to regulate harvest methods or other operational practices, which are regulated under State Environmental Conservation Law.

Comment HD-2
If some natural stock exists on a lease site that is created out of an established oyster grant, please describe the hydraulic dredge or patent tongs that are capable of distinguishing between wild and cultivated stock. The subject of permitting hydraulic dredges on land leased through the County's Lease Program has not yet been discussed at any ALPAC meeting. The subject of hydraulic dredging should be addressed as soon as possible at an ALPAC meeting. (PH), (AL)

Response HD-2
Presently, there is no harvesting device available that can differentiate between wild and cultured shellfish stocks. If evidence is presented that an area proposed for leasing has a viable wild stock, a field survey must be performed to assess existing wild stock before the lease is granted. If the site has a viable wild stock, it will not be eligible for leasing. A discussion on allowing the use of hydraulic dredges on leased lands was held at the 16th ALPAC meeting on June 26, 2008. This discussion was accompanied by presentations from Cornell Cooperative Extension of Suffolk County and the East Coast Shellfish Growers Association.

Comment HD-3
Hydraulic dredging will without question expose the dormant brown tide seeds in the sediment, increasing the likelihood of a major reoccurrence. (NSBA)

Response HD-3
While some HAB species produce cysts that can be concentrated in the sediments (particularly dinoflagellates, as in the dispersal of Alexandrium red tides (Anderson

2008), Aureococcus has not been demonstrated to do so (Bricelj and Lonsdale, 1997) and is considered a non-cyst forming species (Popels and Hutchins, 2002; Doblin et al., 2004). Thus, dredging, mechanical or otherwise, is not likely to have any effect on the re-emergence of the brown tide. Oceangoing ships and coastal boats have been suggested as the major transport mechanism for brown tide outside its original bloom location(s) (Popels and Hutchins, 2002; Doblin et al., 2004).

Comment HD-4
Limit the use of mechanical dredging for on-bottom operations. As long as well considered limitations are imposed, it is clear that closely monitored dredging operations pose no long-term threats to the viability of the ecology of the Peconic Estuary or to the other users of the Peconic Bay system. While unchecked use of mechanical dredging is certainly detrimental, carefully regulated use of these methods, as described on p. 232 of the DGEIS, certainly has its place in the Suffolk Lease Program and should remain an option for those wishing to employ them. (NSA)

Response HD-4
The proposed Lease Program in effect may preclude the use of mechanical dredging on leases because of the restricted size of the lease plots. However, mechanical dredging will likely continue on the limited number of oyster grants that are presently permitted by NYSDEC to harvest bottom-planted shellfish species other than oysters.

Comment HD-5
The gear used to harvest hard clams and oysters is often erroneously compared to the much larger gear used to harvest sea scallops, surf clams or worse often compared to channel dredging. Shellfish farmers are cultivating shellfish in a described area and not dredging over large areas to find shellfish. Farmers cultivating hard clams on several hundred acres would only be turning over 10-20 acres per year during the process of harvesting or preparing the bottom for planting. (KR)

Response HD-5
Dredging performed for aquaculture operations is focused to recover the stock that was planted as part of each operation. This is in contrast to dredging of wild stock, where dredging is performed in a way to locate and take shellfish in higher concentration areas. Dredging for aquaculture operations occurs only when a shellfish crop is ready for harvesting, and is not performed repeatedly, as is typical for harvesting of wild stock. Channel dredging involves activities that typically require the removal of relatively large volumes of material from specific areas, and the transport of that material away from the dredging location. Impacts from channel dredging have been well studied and documented. The impacts of channel dredging are not applicable to the effects of shellfish dredging on aquaculture stock.

Comment HD-6
The DGEIS fails to address the impacts of dredging on non-target benthic organisms, predator/prey interactions, benthic food web effects, changes in biodiversity, and declines in infaunal abundance. (DEC)

Response to HD-6
A sufficiently detailed review of potential impacts associated with shellfish harvesting through the use of dredges (specifically hydraulic dredges) is presented in Appendix E.

Comment HD-7
The homogenization of habitats is likely to result in the loss of ecological function in marine ecosystems as well. The DGEIS fails to address the effects of repeated disturbance of on-bottom shellfish aquaculture harvesting techniques, such as dredging on the recovery of benthic communities and the potential impacts of habitat homogenization. (DEC)

Response to HD-7
The underwater lands currently permitted by NYSDEC to use mechanical dredges are restricted to oyster grant lands that bottom-cultivate shellfish species other than oysters (see Table 2 in Section 3.2.1 of the DGEIS). Shellfish crops are typically grown out for several years prior to harvesting, which minimize the use of dredges. A further review of potential impacts associated with shellfish harvesting through the use of dredges (specifically hydraulic dredges) is presented in Appendix E.

Comment HD-8
The DGEIS fails to address how physical changes to bottom sediments, topography and microhabitat, as well as increase in turbidity and hypoxic effects resulting from repeated dredging disturbance will affect non-target organisms including egg/larval and juvenile marine finfish and their habitats as well as predatory/prey interactions, benthic food chain, ecosystem processes, biodiversity, infaunal abundance, and subsequent recovery of bottom habitats. (DEC)

Response to HD-8
An in-depth review of potential impacts associated with shellfish harvesting through the use of dredges (specifically hydraulic dredges) is presented in Appendix E.

Comment HD-9
The DGEIS does not address the physical impacts of the proposed shellfish dredging activities on egg, larva and juvenile finfish, including species that are known to inhabit Peconic Bays such as weakfish, scup, winter flounder, black sea bass, tautog, menhaden, northern and striped sea robins, hogchoker, puffer, windowpane flounder, butterfish, Atlantic mackerel and cunner. (DEC)

Response to HD-9
An in-depth review of potential impacts associated with shellfish harvesting through the use of dredges (specifically hydraulic dredges) is presented in Appendix E. In addition, a Essential Fish Habitat analysis is provided in Appendix F.

Comment HD-10
The DGEIS does not address the biological impacts of the proposed shellfish dredging activities on the epifauna and biogenic organisms that provide feeding and refuge habitats

for juvenile or small forms of marine finfish and other benthic organisms, nor does it address the impacts of the loss of Essential Fish Habitat on fish populations, survival, recruitment and the subsequent productivity of those fish species that rely on this habitat. (DEC)

Response to HD-10
An in-depth review of potential impacts associated with shellfish harvesting through the use of dredges (specifically hydraulic dredges) is presented in Appendix E. In addition, a Essential Fish Habitat analysis is provided in Appendix F.

Comment HD-11
The DGEIS does not address how the shellfish dredging activities associated with the proposal to lease underwater lands of Peconic and Gardiners Bay for the purpose of aquaculture will affect winter flounder spawning, egg, larval, post-larval and juvenile life stages and the habitat they rely on. The DGEIS should address how repeated, frequent commercial scale shellfish dredging activities will affect populations of winter flounder, as well as address the negative effects associated with an increase in turbidity and sedimentation, entrainment and burial of eggs and larvae, winter flounder predator/prey interactions and feeding, reproductive success, effects on winter flounder year class and recruitment, and future recreational and commercial landings, as well as address the impacts of the proposed activity on winter flounder Essential Fish Habitat. (DEC)

Response to HD-11
In response to Comment HD-11, an in-depth review of potential impacts associated with shellfish harvesting through the use of dredges (specifically hydraulic dredges) is presented in Appendix E of this FGEIS. In addition, an Essential Fish Habitat analysis is provided in Appendix F of this FGEIS.

Comment HD-12
From 1984 to the present, the Department has conducted a survey of striped bass using a beach seine in Little Neck Bay and Manhasset Bay. During the time period in question, Department staff conducting the seine survey had first-hand observation of the condition of the water and the bottom before and during the use of mechanical harvesting for the relay program. Setting and retrieving the seine became more difficult as the unconsolidated sediments that had been loosened by mechanical harvest were re-suspended and clogged the net every time it was retrieved. This condition persisted for nearly a year following cessation of mechanical harvest. These observations played a role in the Department's decision not to allow mechanical harvest of wild product in New York. If mechanical harvest is allowed, how will the impact described above be prevented? (DEC)

Response to HD-12
The comparison of hydraulic dredging in Little Neck Bay/Manhasset Bay to culture operations in Peconic Bays stretches the point. The "relay" dredging in Little Neck Bay occurred in shallow waters up to the limit of dredge boat operations. This will not occur in Peconic Bay. The bay bottoms are also not comparable.

In addition, shellfish farmers typically leave their crop untouched for several years prior to harvesting; therefore, the degree of impacts from dredging cultured product is less than wild shellfish harvest. As previously stated, the proposed Lease Program will in effect preclude the use of mechanical dredging on leases because of the restricted size of the lease plots. Mechanical dredging will most likely continue only on the limited number of oyster grants that are presently permitted by NYSDEC to harvest bottom-planted shellfish species other than oysters.

2.4 Environmental and Socio-economic Sensitive Areas

Comment ESSA-1
The Shellfish Cultivation Zone designated for aquaculture has not been properly vetted. Many of the areas within the zone lay on edge habitat that could be productive hard clam areas. (PH)

Response ESSA-1
As described in Section 2.1.1 on page 25 of the DGEIS, the development of the County's Lease Program required the collective knowledge and input from numerous individuals, agencies, organizations, businesses and other interested parties. The information used to determine the Shellfish Cultivation Zone was facilitated by the participation of the ALPAC Committee, and by conducting information gathering meetings including public input sessions. In addition to the ALPAC meetings, individual and group meetings were held involving site visits to local aquaculture operations and interviews with over 70 individuals, including local government representatives, shellfish growers, baymen, fishermen, environmental organizations, professional/trade groups, recreational boaters, and academic institutes.

In addition to the information obtained through the process mentioned above and to further mitigate this issue, the public input portion of the leasing procedure allows for additional input from interested parties prior to the issuing of a lease. As described in the Draft Suffolk County Shellfish Aquaculture Lease Program Administrative Guidance document (June 2008), and the revised Section 2.6 Program Components of the DGEIS, if an objection regarding the proposed lease area is raised during the public comment period, the County will make a determination as to whether the objection is credible. For an objection to be considered credible, the objector must provide to the County proper notarized documentation. If the objection is credible, the lease applicant will have the option to select one of his/her alternative sites, or if involving an alleged commercial shellfish or finfish fishery, will cause a benthic survey to be conducted at his/her own expense. The County will notify the lease applicant of any objections. If the objection is credible, the lease applicant will be requested to select one of its alternatives sites.

Comment ESSA-2
There is wild shellfish stock throughout the bays and no public underwater land should be leased to private entities. (PH)

Response ESSA-2
According to a recent document prepared for the PEP, Meetinghouse Creek Watershed Management Plan (2006) there are 158,000 acres of bay floor recognized by state agencies as shellfishing areas, however, the majority of yield comes from the shallower rivers and embayments that line the estuary. Estimates vary as to how much of the bay may be highly productive with figures ranging between 8,000 acres (Lewis et al., 1997) to 20,880 (PEP CCMP, 2001). The harvesting in these areas is highly concentrated due to the fact that these beds comprise only six to 18 percent of the entire shellfishing areas (Lewis et al., 1997). As discussed in Section 2.1.1 of the DGEIS, sites with viable wild stock of shellfish will not be included in the Lease Program.

Comment ESSA-3
Gardiners Bay is productive for shellfishing and public underwater lands in Gardiners Bay should not be allowed to be leased and should remain accessible to the public. (PH)

Response ESSA-3
See ESSA-2 above

Comment ESSA-4
Wild shellfish stock should be assessed before a lease is permitted. (PH)

Response ESSA-4
As described above in Response ESSA-1, extensive information gathering sessions were conducted to help remediate any impacts to wild shellfish stocks within the proposed lease areas in Peconic Bay and Gardiners Bay. In addition to these and as part of the lease application process, a pubic notice announcement period (as described in Section 2.6 of the DGEIS) is a requirement. As stated in Response ESSA-1 above and in the Draft Suffolk County Shellfish Aquaculture Lease Program Administrative Guidance document (Administrative Guidance Document), and as revised in Section 2.6 of the DGEIS, if an objection regarding the proposed lease area is raised during the public comment period, the County will make a determination as to whether the objection is credible. If the objection is credible, the lease applicant will have the option to select one of his/her alternative sites, or if involving an alleged commercial shellfish or finfish fishery, will cause a benthic survey to be conducted at his/her own expense. The County will notify the lease applicant of any objections. If the objection is credible, the lease applicant will be requested to select one of its alternatives sites, or conduct the required benthic survey.

Comment ESSA-5
In order to prevent lease holders from harvesting wild stock, a lease holder must first plant seed prior to harvesting the lease site. (PH)

Response ESSA-5
Currently, in order to harvest on-bottom cultured shellfish on an underwater grant, a letter of permission from the NYSDEC is required. No harvest of shellfish can occur before the first culture planting. After planting, and once the NYSDEC has

documentation showing that the planted stock has matured, the cultured shellfish can be harvested. If an underwater grant owner is given permission by the NYSDEC to prepare the site for first planting, any hard clams harvested during the process of bottom preparation prior to first seeding must be returned to the water, or surrendered over to a public entity.

Comment ESSA-6
The County should not give away public lands that the taxpayers are paying to preserve. (PH)

Response ESSA-6
The proposed action does not give away public lands; ownership remains in the public. The program only allows access to a specified area for the purpose of shellfish cultivation as per NYS ECL §13-0302.

Comment ESSA-7
How would Suffolk County cancel a lease if it turns out that some environmental problem should have prevented the issuance of the lease initially? (CEQ)

Response ESSA-7
In the development of the program, a great deal of time and effort went into gathering collective knowledge and input from numerous individuals, agencies, organizations, businesses and other interested parties to mitigate environmental and socio-economic impacts that may occur from the proposed action. As described in Section 2.6 component #16 (pg 51) of the DGEIS, the County may terminate a lease if certain criteria are not met which will include, but not be limited to, non-payment of lease fees, violation of the NYS Environmental Conservation Law as it pertains to marine-related activities, significant adverse impacts to marine resources, or if the lease performance standards are not met. In addition, the County reserves the right to ask a lease holder to relocate if some unforeseen adverse impact associated with the location of a lease occurs, or new additional information on site conditions and characteristics is provided. The relocation of leases is discussed in Appendix A, component 7.

Comment ESSA-8
Are there disturbances ("turf-wars") between existing culturist and other users of the bays? (CEQ)

Response ESSA-8
There are no known violent conflicts that have occurred between baymen, growers, or the public over bottomlands in the Peconic Bay system. Conflicts over fishing/shellfishing grounds have occurred among commercial baymen, but theses types of conflicts are typically non-violent and generally involve disputes relating to the types and location of fishing gear.

Comment ESSA-9
Concerns regarding the lack of specific delineation of the whelk harvest areas as a socio-economic sensitive area. The Shellfish Cultivation Zone obviously has not included an evaluation of whelk fishing in those areas. Areas where commercial harvest of whelk occurs need to be delineated and excluded from the zone. (PW)

Response ESSA-9
With the exception of a moratorium of permits being issued by the NYSDEC, the whelk fishery remains basically unregulated and unrestricted. There are over 110,000 acres of underwater land available to whelk fishermen throughout the Peconic Bay system and the limited restrictions (if any) that may apply on County leased acres will have little to no impact on the fishery. In fact, having an increased abundance of prey food (such as oysters and hard clams) may positively impact the whelk population.

Comment ESSA-10
The benefits of shellfish cultivation are widely documented. These benefits apply to all species cultivated and all cultivation methods. They are:

- Sustainability – cultivation of shellfish relieves the pressure on wild populations.
- Create habitat and promote sets of shellfish on unfarmed grounds.
- Clean water by filter-feeding.
- Remove excess nitrogen. (KR)

Response ESSA-10
As stated in comment ESSA-10, shellfish aquaculture can have a positive impact on existing habitats.

Comment ESSA-11
The DGEIS needs a better, more complete description of commercial fishing activity, particularly locations and seasonality. The DGEIS does not adequately describe the setting, leaving out important details. The areas where commercial fishing takes place are important for the seclusion mapping exercise. The DGEIS leaves out important detail about the recreational fishery, ignoring the flyfishing charter industry, for example. The document does not adequately describe the recreational industry, particularly location data which would be useful for the exclusion mapping exercise. The DGEIS needs a better description of the impacts to fishing activities, including the loss of access to public lands occupied by aquaculture gear. The DGEIS needs a more complete description of boating activities and infrastructure, with impacts to same. There is some errata and irrelevant information included in this section. The Contractor should consult with DEC on corrections. (DEC)

Response to ESSA-11
Because the "fly-fishing" community tends to utilize the flats and shallows, most likely the majority of the fishery is being conducted within the 1,000 foot buffer zone and not within the County's cultivation areas, so little to no impact is expected on this fishery. Also, it may be possible that the structures used in off-bottom aquaculture activities will create suitable habitat for bait fish, which in turn will attract the species of fish that this

fishery usually pursues (stripped bass and bluefish). Structures used to grow shellfish may result in a positive impact on the fishery.

2.5 Draft Generic Environmental Impact Statement

Comment DGEIS-1
On page 110, Table 2 indicates that grant #55 is in Great Peconic Bay and according to the reference map between pages 114 and 115 this grant is in Gardiners Bay. (JA)

Response DGEIS-1
In response to Comment DGEIS-1, Table 2 on page 110 of the DGEIS will here by be modified in this FGEIS to read that grant #55 is located in Gardiners Bay.

Comment DGEIS-2
On page 171, the 4th paragraph talks about eelgrass absence, possibly attributed to nutrient enrichment. However, Figure 8 on page 143 appears to indicate that nitrogen levels have diminished in the estuary. Is this contradictory? (JA)

Response DGEIS-2
The loss of eelgrass beds is an occurrence that has been happening over the past several decades, and research has suggested that anthropogenic influences including nutrient enrichment may be a major cause for this decline. Because of and in reaction to this research, many of the municipalities surrounding the Peconic Estuary system have put restrictions on direct influx of nutrients into the bay. These efforts by the municipalities are the probable reason for the nitrogen levels diminishing in the estuary. Unfortunately, even with this reduction in nutrient levels, eelgrass beds may never return to historic levels.

Comment DGEIS-3
On page 201, the statement about dredging on the Blue Points property is not attributed to any particular source, but all other statements about dredging are. (JA)

Response DGEIS-3
The information regarding the impacts to the bay bottom in Great South Bay from the mechanical harvest operations conducted by the Bluepoints Oyster Company are hereby revised to include the following reference: Personal Communication, Carl LoBue, The Nature Conservancy, August 2008.

Comment DGEIS-4
On page 253, regarding the party/charter boat fishery, there should be mention of the "fly-fishing " boats – small speed boats that take individuals or small parties around to the flats and shallows, often, but not always, using fly fishing gear. There are quite a few of them out east. Also, Montauk isn't mentioned as a base for charter boats, but boats from there sometimes go into Gardiners if the winds are a problem farther east. (JA)

Response DGEIS-4
Because the "fly-fishing" community tends to utilize the flats and shallows, most likely the majority of the fishery is being conducted within the 1,000 foot buffer zone and not within the County's cultivation areas, so little to no impact is expected on this fishery. Also, it may be possible that the structures used in off-bottom aquaculture activities will create suitable habitat for bait fish, which in turn will attract the species of fish that this fishery usually pursues (stripped bass and bluefish). Structures used to grow shellfish may result in a positive impact on the fishery.

Because there will most likely be very few shellfish aquaculture lease areas in Gardiners Bay and the locations of those that are there are in the upper western corner of the bay and around the Promise Land area, impacts on any charter boats out of Montauk using Gardiners Bay will most likely be minimal.

Comment DGEIS-5
Description of the proposed action (Section 2) should clarify the fact that this program is a legal framework for giving access to sites and that the NYSDEC will be responsible for certain permitting procedures. (CEQ)

Response DGEIS-5
Section 2.1 (pg. 25) and Section 2.1.2 (pg. 28) describe the intention of the program, from the County's perspective as a means to provide access to underwater lands for shellfish cultivation. Once access is secured, lessees must obtain all necessary permits from State and Federal agencies before shellfish cultivation could take place.

Comment DGEIS-6
The document should contain a section on night-time navigation and the likelihood of accidental collisions with markers and gear along with potential mitigation measures. (CEQ)

Response DGEIS-6
The US Coast Guard is the regulatory agency that will make the determination on the type of buoy required to alert mariners of the submerged or floating structures on shellfish aquaculture leases. According to the NYSDEC, all TMAUAs are required by the USCG to mark their sites with buoys that are 36", white in color, with two horizontal retro reflective orange bands placed completely around the buoy circumference. Between the two bands will be two vertical open faced diamonds placed 180 degrees apart with a daytime visibility range of one nautical mile and be radar reflective for night time and low visibility. Therefore, when an applicant for the lease program applies for a permit from the USCG, marking of a site will most likely be similar to this requirement.

The likelihood of accidental collisions with shellfish aquaculture markers and submerged gear is low since submerged gear will be set at a depth that will not impede navigation, and since there will be setbacks of leases from navigational channels (see Section 4.3.3.3. pg. 290).

Comment DGEIS-7
Are anti-fouling paints currently an issue? The document should identify these paints as a potential impact and discuss their implication and mitigation. (CEQ)

Response DGEIS-7
Pesticides or other chemicals are not permitted in the treating of shellfish aquaculture gear for biofouling under the Food and Drug Administration (21 USC §1-1404). Antifouling techniques of shellfish aquaculture farmers typically consist of: a high strength salt brine treatment, which disrupts the fouling organisms through osmotic shock; the physical removal of fouling organisms through brushing; steam treatment; or, air drying the equipment for an interval of time.

Comment DGEIS-8
Section 4 should break out impacts and mitigation into individual major sections. (CEQ)

Response DGEIS-8
In response to Comment DGEIS-8 and to further expand on the summary table in Section 4.10 of the DGEIS (pg. 294), the following tables (Table 1: Environmental Impacts and Table 2: Socio-economic Impacts) will be incorporated into this FGEIS to assist in associating impacts to mitigation methods:

Table 1: Environmental Impacts

Impact	*Mitigation*	*Location in DGEIS document*
Amplification of native and exotic shellfish diseases	*-Require disease testing* *-Monitoring environmental conditions* *-Use local seed stock*	*Impact-Section 4.1.2.1* *Mitigation-Sections 4.1.3.8, 4.1.3.9, and 4.1.3.12*
Harvest of shellfish	*-Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Restrict harvest methods* *-Monitoring of environ. conditions*	*Impact – Section 4.1.2.2* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, 4.1.3.6, and 4.1.3.14*
Placement of on-bottom structures on sediment characteristics and benthic fauna	*-Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Monitoring of environ. conditions*	*Impact – Section 4.1.2.3* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, and 4.1.3.14*
Sedimentation and scouring	*-Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Monitoring of environ. conditions*	*Impact – Section 4.1.2.4* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, and 4.1.3.14*
Changes in Phytoplankton composition and nutrient cycling	*-Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Plot rotation*	*Impact – Section 4.1.2.5* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, 4.1.3.11 and 4.1.3.14*

	-Monitoring of environmental conditions	
Displacement and Attraction of Species	*-Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Restrict harvest methods* *-Transient gear aqua. system* *-Plot rotation* *-Monitoring of environmental conditions*	*Impact – Section 4.1.2.6* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, 4.1.3.6, 4.1.3.10, 4.1.3.11 and 4.1.3.14*
Suspended sediment/turbidity	*Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Restrict harvest methods*	*Impact – Section 4.1.2.7* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, 4.1.3.6, and 4.1.3.10*
Carrying capacity-phytoplankton /nutrients depletion	*-Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Plot rotation* *-Monitoring of environ. conditions*	*Impact – Section 4.1.2.8-11* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, 4.1.3.11 and 4.1.3.14*
Enhanced recruitment	*-Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Plot rotation* *-Monitoring of environ. conditions*	*Impact – Section 4.1.2.12* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, 4.1.3.11 and 4.1.3.14*
Site impacts, down-drift impacts	*-Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Plot rotation* *-Monitoring of environ. conditions*	*Impact – Section 4.1.2.8-13* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, 4.1.3.11 and 4.1.3.14*
Accidental release of shellfish	*-Require disease testing* *-Use local seed stock* *- Monitoring of environ. conditions*	*Impact – Section 4.1.2.8-14* *Mitigation – Sections 4.1.3.9, 4.1.3.12 and 4.1.3.14*
Genetic changes	*-Require disease testing* *-Use local seed stock* *- Monitoring of environ. conditions*	*Impact – Section 4.1.2.8-15* *Mitigation – Sections 4.1.3.9, 4.1.3.12 and 4.1.3.14*
Impacts to protected and important species	*-Limit lease numbers* *-Limit lease sizes* *-Limit type of lease* *-Limit biomass of shellfish* *-Restrict harvest methods* *-Establish buffers* *-Monitoring of environ. conditions*	*Impact – Section 4.1.2.16* *Mitigation – Sections 4.1.3.1, 4.1.3.2, 4.1.3.3, 4.1.3.5, 4.1.3.6, 4.1.3.7 and 4.1.3.14*

Table 2: Socio-economic Impacts

Impact	*Mitigation*	*Location in DGEIS document*
Loss of harvest area	*-Limit project acreage available* *-Limit lease size* *-Cooperation among user groups* *-Phased expansion of leases on land grants*	*Impact – Section 4.2.2.1* *Mitigation – Sections 4..2.3.2, 4..2.3.3, 4.2.3.5, and 4.2.3.6*
Maritime traditions	*-Limit project acreage available* *-Limit lease size* *-Cooperation among user groups* *-Phased expansion of leases on land grants*	*Impact – Section 4.2.2.2* *Mitigation – Sections 4..2.3.2, 4..2.3.3, 4.2.3.5, and 4.2.3.6*
Changes in employment opportunities	*-Cooperation among user groups*	*Impact – Section 4.2.2.3* *Mitigation – Section 4.2.3.5*
Value of fishery resources	*-Performance standards* *-Cooperation among user groups*	*Impact – Section 4.2.2.4* *Mitigation – Sections 4.2.3.1 and 4.2.3.*
Potential supplemental income	*-Cooperation among user groups*	*Impact – Section 4.2.2.5* *Mitigation – Section 4.2.3.5*
Shoreline facilities	*-Limit project acreage available* *-Limit lease size* *-Cooperation among user groups* *-Phased expansion of leases on land grants*	*Impact – Section 4.2.2.2* *Mitigation – Sections 4..2.3.2, 4..2.3.3, 4.2.3.5, and 4.2.3.6*
Conflicts over lease boundaries	*-Limit project acreage available* *-Limit lease size* *-Mark lease areas* *-Cooperation among user groups* *-Phased expansion of leases on land grants*	*Impact – Section 4.2.2.2* *Mitigation – Sections 4..2.3.2, 4..2.3.3, 4.2.3.4, 4.2.3.5, and 4.2.3.6*
Hazards to navigation	*-Standards for marking* *-Notification* *-Limit placement of structures* *-Require buffers*	*Impact – Section 4.3.2.1* *Mitigation – Sections 4.3.3.1, 4.3.3.2, 4.3.3.3, and 4.3.3.4*
Restrictions on use	*-Notification* *-Limit placement of structures*	*Impact – Section 4.3.2.2* *Mitigation – Sections 4.3.3.2, and 4.3.3.3*
Loss of Aesthetic values/qualities	*-Visual buffers and setbacks*	*Impact – Section 4.4.2.1* *Mitigation – Sections 4.4.3.1*

Comment DGEIS-9

The leased premises of Winergy Power LLP were initially on the draft maps that identified which areas of Gardiners Bay that would be leased by Suffolk County for shellfish cultivation, but the current version has excluded them. Winergy respectfully submits that the rationale for generally excluding land from the current version of the Lease Program does not apply to its leased premises. (WP)

Response DGEIS-9

As a result of additional deliberations by the ALPAC committee, the Department of Planning decided to add the 200-acre area located to the south of Plum Island, which is under lease issued by the State of New York Office of General Services to Winergy Power LLP, as part of the Shellfish Cultivation Zone. The Shellfish Cultivation Zone map has been amended to add this change. This 200-acre area will be considered like a fallow

oyster grant, where the owner is limited to applying for two 10-acre leases. The various provisions of the lease application process would also apply.

Comment DGEIS-10
In Section 2.6.14, it states "The County will identify what will be considered adequate documentation of the status of natural shellfish stock; such documentation may include, but not be limited to, a field survey of the underwater land." Who will pay to provide a "field benthic survey," obviously not an inexpensive endeavor? If the County does pay for these surveys, and the lease site proves to be productive, the lease applicant should repay the County for the survey. If the site proves to be unproductive, the challenger should repay the County for the survey. (PH), (AL)

Response DGEIS-10
Several different options are being considered as to how a field survey will be conducted and what source of funding will be used. As of the time this document was prepared, no one method has been selected. When options are selected, the Administrative Guidance Document will discuss them in greater detail.

Comment DGEIS-11
In Section 2.6.10, it states "Lease sites must be surveyed by a licensed land surveyor prior to execution of the lease." If the County pays for the survey, then some percentage of the fee paid to the County by the lease holder should be devoted to repaying the cost of the survey. The lease holder has been granted exclusive use of public bottomland for private profit, and therefore should be financially responsible for the cost of the survey. (AL)

Response DGEIS-11
Administrative costs for implementing the Lease Program will be offset to some extent by the lease application fees and annual rent payments.

Comment DGEIS-12
Section 2.6 #25, states that the TMAUAs that have pending applications made by December 31, 2007 will be given the opportunity to obtain a lease in accordance with established provisions. What is the County's policy on new applications for TMAUAs after the December 31, 2007 date? (GR)

Response DGEIS-12
Holders of TMAUAs issued after December 31, 2007 will have to submit an application to the County for a lease. The acreage involved must be located in the Shellfish Cultivation Zone, and will be considered as part of the annual acreage cap of 60 acres for new leases.

Comment DGEIS-13
It may be important to review the relationship between the proposed project and the NYS Public Trust Doctrine again, as the DGEIS does not clearly show that there is no major conflict here. Leasing public lands for private gain should only be done if the public's

benefit will be greater than its cost. There is no clear demonstration that the benefits to the public outweigh the costs. (GEE)

Response DGEIS-13
As stated in Section 1.3 (page 16) of the DGEIS, the implementation of the Lease Program is expected to yield the following benefits:

- *Provide people with the opportunity to obtain access to underwater lands for raising shellfish.*
- *Encourage private investment in aquaculture businesses and the establishment of shellfish farms.*
- *Expand the marine-based economy and create related job opportunities.*
- *Augment the spawning potential of native shellfish populations and exert positive influence on water quality by increasing filter feeding organisms into the system.*
- *Provide potential positive impacts such as increased suitable substrate for flora and fauna and commensal relationship between ecological health and users of the bay.*
- *Help re-establish and strengthen the maritime tradition of shellfish aquaculture.*

Comment DGEIS-14
In the section on Impacts, the discussion of Amplification of Native and Exotic Shellfish Diseases needs to more fully explain this threat and how it will impact native populations since it will most likely occur. The concept that monoculture enhances the spread of diseases needs to be fully explored. (PW)

Response DGEIS-14
Several different mitigation methods have been discussed in the DGEIS in order to eliminate or limit the potential for the amplification of native and exotic shellfish diseases being introduced as a result of the proposed action. The DGEIS suggests that several mitigation methods such as: limiting lease numbers; limiting lease sizes; limiting the types of leases; limiting the biomass of shellfish; restricting harvest methods; establishing buffers zones; requiring disease testing of shellfish; restrictions by regulatory agencies; use of local seed stock; and monitoring of environmental conditions may be used to ensure that these concerns will be addressed.

Comment DGEIS-15
The data reported in Table 28 do not accurately depict the actual landings of whelk. A serious and honest effort needs to be made to delineate the scope and contribution that the whelk fishery has on the total economic value of the fisheries in Peconic Bay and Gardiners Bay. In addition, the suggestion that fishing for whelks has increased because of reduced populations of Queen Conch is a fallacy, but rather the increase is due to displaced fishermen entering the fishery and an increase demand from Asian markets. (PW)

Response DGEIS-15
As stated previously in this document, with the exception of a moratorium of permits being issued by the NYSDEC, the whelk fishery remains basically unregulated and unrestricted. For this reason it is very difficult to ascertain accurate information on true landings or fishery value. Perhaps, proper mitigation of this inconsistency will require more involvement by regulatory agencies on whelk fishery activities.

The increased demand for local whelks from Asian markets may indeed be a result of reduced populations of Queen Conch and in fact it is not unusual that once the prime target species for a certain fishery is exploited to the point of depletion, another similar less desirable species will be exploited to fill that void.

The insinuation that the increased for the demand of a certain species is a result of an increase of displaced fishermen entering that fishery is not an accurate statement. In fact, most fishermen whether displaced from an exploited fishery or not typically enter a fishery due to an increase in market demand and/or an increase of value per pound of that product.

Comment DGEIS-16
The section on horseshoe crabs beginning on page 248 presents data that is incorrect and the conclusions that are drawn from the landings data are wrong and demonstrate a complete lack of understanding about the horseshoe crab fishery by the author. There is no noticeable decrease in abundance observed by the fisherman involved in the fishery and the NYSDEC surveys indicates that the population in NY waters is stable or slightly declining in some areas. There is no shortage of horseshoe crabs in NY. (PW)

Response DGEIS-16
In further support of the information provided in the DGEIS on horseshoe crab populations, the following table depicting the Regional Trends of Horseshoe Crab Abundance according to the ASMFC Horseshoe Crab Stock Assessment Report, 2004 indicates that there is some decline in horseshoe abundance along the east coast of the United States.

Region	***Sub-region***	***Time series duration of longest dataset***	***Conclusion about population change***
Southeast		*1995-2003*	*Stable*
Delaware Bay		*1898-2003*	*Declined*
New York	*W. Long Island Sound, various bays*	*1987-2003*	*Stable or increased*
	E. Long Island Sound, Peconic Bay	*1980-2003*	*Declined from peak levels in early to mid 1990s, but consistent with mid 1980s levels*
New England	*Cape Cod*	*1978-2002*	*Declined or stable*
	Narragansett Bay	*1975-2002*	*Declined*

Also, it should be noted that when the NYSDEC enacts various catch limits and other restriction on certain species it is usually because of fears that that particular fishery stock is in decline and in need of regulatory actions.

Comment DGEIS-17
The discussion on page 280 about the loss of harvest areas needs to more fully and honestly explore the impact on the whelk fishery. These impacts will be real and significant to the baymen involved. (PW)

Response DGEIS-17
Leases for new shellfish aquaculture operations will consist of modest 5 to 10 acre parcels, for a maximum acreage of 300 acres within the first 5 years of the program and 600 acres by the 10th year of the program. New leases will not be contiguous or clustered in a portion of the estuary, which could significantly preclude the placement of whelk pots in such areas of the estuary. This new acreage and what existing aquaculture operations are currently located in the Peconic estuary is approximately 2% of the underwater lands available to users of the bay system. This acreage should and can not be considered to significantly impact the whelk fishery or any other fishery for that matter.

Comment DGEIS-18
The suggestion on page 283 that the Lease Program will benefit displaced baymen is deceiving and misleading. The program itself will displace baymen most of which are not interested in aquaculture. This fact needs to be more fully discussed here. (PW)

Response DGEIS-18
The statement in Comment DGEIS-18 is more of an opinion than factual information. There is no proof that any aquaculture activity currently in operation in the Peconic estuary has displaced any baymen. In fact, some baymen have already become involved in the NYSDEC's Temporary Marine Area Use Assignment program to help subsidize their incomes.

Comment DGEIS-19
A discussion how baymen have been forced to spend significant time and effort resulting in a loss of income and productivity in order to protect their fishing lifestyle as a result of this leasing program needs to be included in the section on impacts. (PW)

Response DGEIS-19
Public input was imperative In order for the County to ensure that impacts associated with the proposed action were evaluated. However, to insinuate that requesting public input forced the baymen to spend significant time and effort resulting in a loss of income and productivity is more an opinion than actual fact. Evening meetings have been held on the east end to accommodate working baymen. It is in their best interest for baymen to participate in this process.

Comment DGEIS-20

In the document entitled "Suffolk County Shellfish Aquaculture Lease Program – Proposed Program Components (working Draft March 20, 2008)" on page 2, component # 3 (Sizes of Leases) it states that the lease size limits of 5 to 10 acres "do not apply to private oyster grants." This statement is in conflict with the statement about lease sizes which appears in the DGEIS dated March 19, 2008. On page 49 of the DGEIS it states that the limits "do not apply to *active* grants." There very definitely needs to be clarity about this issue, because to allow oyster-grant owners to convert all of their grant lands to the County's lease program would (1) allow aquaculture activities in well-established productive fishing areas; (2) create havoc where the grant lands are in navigational water; and (3) destroy any support the lease program might otherwise find in the baymen's community. (AL)

Response DGEIS-20

The draft version of Proposed Program Components (dated March 20, 2008) as well as the draft version of the Section 2.6 of the DGEIS is a work in progress and briefly discussed the basic outline of the components of the proposed lease plan. As part of the program, the Administrative Guidance Document being developed goes into much greater detail as to allowable lease acreage being considered in this program. Currently, the allowable lease acreage for a particular participant is described as such:

1. *<u>County Lease Program Participants</u>*
   a.) *NYSDEC Temporary Marine Area Use Assignments*
   The County Lease Program will provide for the incorporation of the existing Temporary Marine Area Use Assignments (TMAUAs) previously issued by NYSDEC into the leasing program. To the extent possible under the lease program, TMAUA holders will be permitted to remain at their current location. Leases established from TMAUAs will not be considered in the yearly allowance for new lease development (i.e., 60 acres per year). It should also be noted that once the program is implemented, TMAUAs located in the area that is under County jurisdiction must be converted to a lease in order to continue aquaculture activities on that site.
   i.) *TMAUA holders will be required to submit a Lease Application to the County as described in Appendix B of this guidance document. The applicant can request that the existing operation (5-acre circular plot) be continued without change, or he/she can request an expansion (10-acre square lease) or modification of the current operation, at the same location. The application will be subject to the public review process and other lease requirements prior to issuance of a lease by the County. A TMAUA holder can request a 5 or 10-acre lease at a different location in the Shellfish Cultivation Zone. If issued at the new location, the lease holder would have to relocate operations to the new location and vacate the former TMAUA location.*
   ii.) *Isolated TMAUAs will be permitted to remain at that location, pending the lease review process. The TMAUA locations will be regarded as out-lying plots in the Shellfish Cultivation Zone because they have established operations at that location without apparent conflicts. These holders have*

to convert their TMAUA site into a County lease; however, they cannot expand or alter their permitted operations. The County lease, if issued, would provide for only a continuation of operations allowed under the TMAUA program for that site. A holder of an isolated TMAUA can relocate operations to another site within the Shellfish Cultivation Zone in accordance with lease program requirements.

iii.) *Several existing TMAUAs appear to be located entirely or partially within 1000 feet of the shoreline. The County Lease Program has no leasing authority within this area. To allow for the participation of these sites in the lease program, a TMAUA holder will be given the opportunity to relocate operations to a plot outside of the 1000 foot line as close to his original location as possible. The holder of such TMAUAs would have to fulfill the requirements of the lease application process. If the new nearby site is in a sensitive area, the operations would be limited to those permitted under the current TMAUA. The holder of a TMAUA entirely or partially within 1000 feet from shore will be given the opportunity to relocate to a site of his choice within the Shellfish Cultivation Zone, subject to the lease review process.*

b.) *Existing Private Oyster Grants*

i.) *Oyster grant owners do not need to apply for a shellfish aquaculture lease if their farm operations are limited to oyster cultivation only. They must apply for a lease if they wish to cultivate shellfish species other than oysters. Any such leases issued do not count toward the cap of new acreage to be leased during the first two 5-year periods of lease program implementation.*

ii.) *An oyster grant holder can apply for a lease on his/her grant, or a portion thereof, if the owner can document a prior historical or current use of the grant for shellfish aquaculture involving species other than oysters. To be considered active, the grant holder will need to provide documentation that aquaculture operations have been conducted on the grant within the 10-year period between January 1, 1999 and December 31, 2008. Documentation can consist of: receipt for purchase of seed stock; proof of revenue from shellfish sales from the subject parcel; or other documentation confirming that viable aquaculture activity has taken place on the grant. Copies of relevant NYSDEC permits will also need to be provided. Active grant holders can apply for a lease on their grant subject to the procedures outlined in the Lease Application.*

iii.) *The County has identified a number of grants with title conflicts. Leases will not be issued on such grants until all title conflicts are resolved, and documentation/proof of same has been submitted to the County.*

iv.) *If a grant has had no permitted aquaculture activity involving species other than oysters for the 10 year period between January 1, 1999 and December 31, 2008, it will be considered "fallow" and may only enter the Lease Program in a limited phased process. A fallow grant holder may apply for up to two 10-acre leases on his/her site during the first five years of the Lease Program and will be subject to the full application process including public review and comment. The program will be evaluated after five years*

and at that time the determination will be made to possibly expand leases on these formerly fallow grants.

c.) *Leases Subject to Annual Acreage Cap Limits*
Those portions of the Shellfish Cultivation Zone that do not include TMAUAs or grants can also be leased subject to limitations that apply during the first two 5-year periods of the program. These leases will be limited to 5 or 10 acres in size, with a cap of 60 acres leased during each year. After five years, up to 300 acres could be leased; and after 10 years, the maximum area that could be leased would total 600 acres.

Applications for these leases will be accepted and processed in accordance with the requirements given in Appendix B of the Administrative Guidance Document.

d.) *Non-commercial Lease*
These leases include Experimental/Educational and Shellfish Resource Restoration Leases. These leases will be limited in scope and duration and must be located in the Shellfish Cultivation Zone as mapped. They will be reviewed on a case-by-case basis by the County and will not be considered as part of the 1% new growth annual acreage cap limit on leases.

Comment DGEIS-21
The DGEIS needs to consider implementing monitoring requirements under the program to evaluate the impacts to non-target species and changes in sediment deposition from cage use. (DEC)

Response to DGEIS-21
In response to Comment DGEIS-21, the County had requested information from the NYSDEC on studies it has performed on impacts to non-target species and changes in sediment deposition from cage use associated with Temporary Marine Area Use Assignments that it has permitted in the Peconics since the mid-1980s. The NYSDEC responded in an email dated July 24, 2008 by stating "There are no monitoring programs conducted by DEC or required of permit holders for private shellfish culture activities authorized by DEC permits."

In addition the County will be coordinating with federal, state, local agencies and institutions that are conducting studies in the Peconic estuary to determine how such research can be used in monitoring any impacts that may be associated with the County's Lease Program.

Comment DGEIS-22
Under the heading "US Fish and Wildlife Service," the DGEIS states that the USFWS has regulatory control over any federally endangered wildlife species, such as marine mammals, which may be affected by shellfish aquaculture activities. This is generally the case in circumstances when those species are encountered on land. In the case of marine mammals and sea turtles found in the water, the National Oceanic and Atmospheric Administration (NOAA) has regulatory control through NMFS. (DEC)

Response to DGEIS-22
Although, Section 3.1.1 of the DGEIS states that USFWS has regulatory control over any federally endangered wildlife species it also states in the NOAA description of the section that NMFS reviews permit applications to determine whether the proposed activities affect endangered marine species, particularly sea turtles in the Peconic Estuary. Basically as stated in Section 3.1.1, the regulatory control over federally endangered wildlife species is shared between the two federal agencies. Depending on where the impact occurs determines which agency will take the lead in authoritative actions.

Comment DGEIS-23
As proposed in the DGEIS, the aquaculture leasing program does not adequately address management for the potential take of protected species. (DEC)

Response to DGEIS-23
Since no activity can be done without an impact, whether through aquaculture or from harvesting wild stock, the question should ask if the impact is significantly adverse. During the literature review portion of program preparation, no significant adverse impacts to protected species were reveled from aquaculture activities, therefore no significant adverse impacts are expected from the proposed action. More importantly the question should be, if the impact is indistinguishable from those of other common and approved user activities should that activity be regulated differently simply because it is aquaculture instead of a wild harvest fishery?

2.6 Shellfish Cultivation

Comment SC-1
There are risks from transplanting large volumes of shellfish from other areas. It is fair to suggest that there should be no expansion beyond current annual introduction of shellfish from outside the estuary, and in addition plans should be developed to examine past impacts and potential future impacts. Transplanted shellfish can and have been a vector for harmful species. Alternative technologies of shellfish purification that do not require transplanting should be investigated. (NSBA)

Response SC-1
The 2004 Lease Law does not grant Suffolk County the authority to expand the current annual introduction of shellfish from outside the estuary. As stated in Section 3.3.1 of the DGEIS, the shellfish transplant program is administered and regulated by NYSDEC. The NYSDEC conducts continuous monitoring of approved harvest areas for the duration of the shellfish transplant program to make sure the shellfish are acceptable for transplant. In addition, NYSDEC requires that all shellfish transplanted be held in off-bottom containers (e.g., racks, cages or trays) to minimize any potential transmission of shellfish diseases to receiving waters in the Peconic Estuary. Also, an evaluation of alternative technologies for shellfish purification is not the responsibility of Suffolk County under the proposed Lease Program.

Comment SC-2
The introduction of species through aquaculture has only partially documented the impact of past introductions on wild shellfisheries. Could mixing of wild and cultured stocks produce offspring that is less viable than the natural stock? (NSBA)

Response SC-2
No data obtained during the information gathering portion of this program revealed any impacts to wild stock that suggested the mixing of cultured and wild stocks resulted in the production of a less viable offspring. However, as part of program development, the County will continue to research this matter through additional literature searches and consultations with experts in the field of shellfish research.

Comment SC-3
The potential for nutrient loading and bacterial matting from raft culture should be examined and in the case of transplanting sediments beneath the structures should be periodically tested for chemicals and metals. (NSBA)

Response SC-3
As part to program development, the County is currently reviewing methodologies that may be used to monitor the programs impacts on the environmental conditions.

Comment SC-4
Is there a potential problem with waste products around a concentration of cultured shellfish? (CEQ)

Response SC-4
Section 4.1.2.11 (pg. 215) addresses the issue of sedimentation of organic material as it relates to aquaculture activities. Studies cited indicate that the sedimentation of organic material, mostly feces and pseudofeces, can result in oxygen depletion in poorly flushed areas, although in well oxygenated areas with good water movement this is not likely to occur.

Table 23(pg. 225) identifies possible consequences and supporting references relating to shellfish waste material.

Comment SC-5
Is there a point where introduction of too many shellfish into an area will cause a strain on the carrying capacity of that system? (CEQ)

Response SC-5
Section 4.1.2.5 (pg. 205) discusses phytoplankton composition and nutrient cycling. Literature cited indicates that changes in phytoplankton population composition, as opposed to population size, is slight, and is more likely to be related to complex, nutrient related trophic cascades rather than feeding.

Section 4.1.2.11 (pg. 216) addresses both the positive and potentially negative impacts on natural bivalve and planktonic communities associated with the introduction and possible proliferation of cultured bivalves.

Table 23 (pg.225) identifies possible consequences and supporting references relating to the depletion of phytoplankton and zooplankton.

Comment SC-6
Is there a potential for even NYSDEC approved stock to introduce disease and other exotics into the system? (CEQ)

Response SC-6
Section 4.1.2.1 (pg. 198) discusses the amplification of native and exotic shellfish diseases.

It is recommended in Sections 4.1.3.9 (pg, 234) & 4.1.3.12 (pg. 236) that local sources of shellfish should be used for cultivation in order to prevent the introduction of exotic species. It goes on to mention that the NYSDEC is currently working on adopting a "Policy of Acceptable Origin of Shell and Shellstock for Introduction in New York" which highlights the requirements intended to avoid adverse impacts associated with uses of non-native species.

Comment SC-7
Will cages be set at a certain depth to avoid collision with boats? (CEQ)

Response SC-7
Section 2.8.2.2.1 (pg. 92) discusses typical off-bottom aquaculture systems while section 4.3.2.1 (pg. 288) addresses hazards to navigation stating that suspended shellfish aquaculture gear currently used within the Peconic Estuary is typically set below the water surface at a depth that allows for boat passage through the site. However, if near surface gears (i.e. floating rafts, upwellers) are permitted, large water surface structure hazards could exist in a random pattern throughout the bay and without properly marked buoys, this type of gear could become a danger to boaters during periods of poor visibility. Therefore, if such type of equipment will be used in association with aquaculture activities a more appropriate method of marking the locations may be warranted.

2.7 Lease Areas

Comment LA-1
Is there going to be a provision in the program to ensure the removal of gear at the termination of the lease? (CEQ)

Response LA-1
Section 2.6, component #12 (pg. 50) identifies the component of the aquaculture lease program that addresses equipment removal. It states that "lessees will be responsible for

removal of all shellfish aquaculture equipment from the lease area, upon termination of the lease. Also, all equipment must be labeled with grower's name and permit number."

In addition, the Administrative Guidance Document also states, "Maintenance and Removal – All shellfish aquaculture gear and the contents of which are the possession and responsibility of the lease holder, who shall be responsible for its maintenance and eventual removal. If the equipment is not removed within 60 days after expiration, termination or revocation of the lease, the lease holder shall be liable to the County for the cost of removal."

Comment LA-2
In regards to the Shellfish Cultivation Zone, it seems wise for the County or NYSDEC to assume the responsibility of ground truthing the appropriateness of possible lease sites before a lease is granted whether or not it is contested by an outside party. The cost of this could be incorporated into lease fees or other such fees. (GEE)

Response LA-2
As stated in Section 2.1.1 of the DGEIS, and as part of program development, significant data on the environmental characteristics and features of Peconic Bay and Gardiners Bays were collected. In addition to the environmental information, data on socio-economic and maritime traditions were also collected and analyzed to assess any impacts to those resources that may occur from the implementation of the proposed action. One of the main reasons for this effort was to help mitigate and reduce the need for costly ground truthing. As a secondary precaution and to further mitigate this action an objection component has been added to the public comment period of the program. In response to a credible objection, the lease applicant may choose to move to an alternative location, or conduct the required productivity survey at his/her own expense.

Comment LA-3
The current limitation of one assignment per person or entity is onerous and should be revisited. The DGEIS points out that some current assignment holders find one assignment to be insufficient for their needs and the ability to re-locate stocks in the face of brown tide events or other ecological disturbing events would be advantageous and perhaps even necessary to preserve the crop. (NSA)

Response LA-3
The Program Components have been revised to allow for two leases per lease holder. However, the second lease can only be procured if the allotment (60-acres annually) for new leases has not been used up by new first time applicants.

Comment LA-4
There should be a cap established and maximum acreage per lease for experimental and restoration sites. (DB)

Response LA-4
Experimental and restoration lease sites will be issued and approved on a case-by-case basis, and maximum acreage allowed for such leases will be determined based on the merits of the proposal and credentials of those involved.

2.8 General Comments

Comment GC-1
Is there an educational program aspect that goes along with this project? (CEQ)

Response GC-1
Educational programs will not be directly implemented through the Lease Program; however, Section 2.6, component #33 identifies that the Lease Program will have a provision for issuing leases for experimental/educational purposes. Currently, there are several educational efforts underway by Cornell Cooperative Extension (i.e., S.P.A.T. program) and the East Coast Shellfish Growers Association who is developing a Best Management Practices program to assist growers in maintaining successful operations.

Comment GC-2
There is a need to continuously monitor and review the program and its impacts on the estuary as a whole. It will be very important to keep up with annual reviews, the five-year review, and to follow through with an environmental review after 10 years. If the County is to move forward with this project, they should be willing to invest in a long-term monitoring on bay productivity and this should be addressed in the FGEIS document as a commitment. (CEQ), (GEE)

Response GC-2
The County is in the process of evaluating methodologies that can be used to monitor any impacts associated with the program, including ways to determine impacts of typical culture operations on both short and long time periods. This monitoring will also include the County's authority to enter and inspect any and all areas subject to a shellfish aquaculture lease agreement for the purpose of determining compliance with the terms and provisions of the lease.

The small scale of the proposed shellfish aquaculture program is not likely to cause widespread changes in water quality. However, the County is evaluating the on-going water quality monitoring data program conducted by the Suffolk County Department of Health Services as part of the Peconic Estuary Program and determining how it may be modified to evaluate and provide the opportunity to discern cumulative impacts, if any (see Section 4.1.3.14, pg. 237).

Comment GC-3
Separating the aquaculture regulatory process and the leasing of bottomlands for aquaculture may have some negative side effects. It will be important to ensure that there is solid communication between the County and the NYSDEC in order to coordinate

efforts to provide adequate environmental protection with the proposed program. (GEE) (PB)

Response GC-3
Coordination between the County and the State is extremely important to the overall success of this project. Currently, in addition to the NYSDEC and other State agencies being part of the ALPAC committee, the County has been communicating directly with NYSDEC personnel as to what information sharing procedure would work best during the lease processing period.

Comment GC-4
The Lease Program is but one element of a larger scheme of aquaculture and the environmental impacts of that scheme are not adequately addressed without consideration of alternate management plans based upon a substantive analysis of shellfish aquaculture methodologies, including harvesting techniques. (PB)

Response GC-4
As part of the development of this program, all current aquaculture operations including those being done by the local municipalities and Cornell Cooperative Extension of Suffolk County were consulted and involved in the analysis of the proposed action. In addition, they will continue to be consulted as the program develops. Also, it should be noted that this program is consistent with the Interim Final 10-Year Plan for the NOAA Aquaculture Program (2006) stating the need for the United States to develop a domestic marine aquaculture industry to meet the growing demand for seafood.

Comment GC-5
There is an issue of "grandfathering" existing Temporary Assignments into long-term leases upon full implementation of the proposal, and the "cut-off" deadline of December 31, 2007. The deadline is somewhat arbitrary and will discourage legitimate prospective participants in the future. (NSA)

Response GC-5
The County developed this cut off date to prevent speculators from seizing an opportunity to obtain a lease and being grandfathered into the program while also providing a static view of current operations to be worked into the program. The cut-off deadline does not prevent anyone from obtaining a lease once the program in place.

Comment GC-6
How much weight will the NYSDEC's comments have in Suffolk County's review of lease applications? (DEC)

Response GC-6
All comments received during the application process, whether from public, private or government agency, will be considered and reviewed by the County. The source of the comment received will also be considered. In addition, Suffolk County will notify the NYSDEC Bureau of Marine Resources and the Regional Permit Administrator of the

time, date and location of all lease pre-application meetings between the County and prospective lease applicants, with an invitation to NYSDEC staff to attend same. Such pre-application meetings would be used to discuss application procedures and identify potential lease site locations. DEC staff could also discuss preliminary permit issues with the prospective applicants. After the pre-application meetings are held, the County will send a summary report on same to the NYSDEC Bureau of Marine Resources and the Regional Permit Administrator. These procedures will occur prior to the issuance of the required public notice on each lease application received. This will be explained in more detail in the Administrative Guidance Document being developed by the County as part of this program.

2.9 Marine Habitat

Comment MH-1
The Shellfish Cultivation Zone area determination process did not adequately address nor take into consideration the importance of fish, essential fish habitat, and fish spawning habitat. An impact analysis of the effects of the proposed leasing program on fish, essential fish habitat, and fish spawning habitat was not conducted in the DGEIS as was clearly outlined on Page 4 of the Draft Scoping Document, April 2007: Essential Fish Habitat. (DEC)

Response MH-1
Based on input received from the NYSDEC, the recommendation suggested in MH-1 and parts of Section ES-3 Impacts, 2.1.1 Background of Program Development, 4.4.4.7 Critical Natural Resource Areas, and 4.1.2 Impacts of the DGEIS have been modified to include Appendix F of this FGEIS, which contains an Essential Fish Habitat evaluation as it relates to the County's proposed lease program.

Comment MH-2
While information on current and historic locations of eelgrass beds was collected and used to create the "Eelgrass Bed" layer in Figure 2, it should be noted that the location of historic populations is important in considering areas where restoration may be possible. Perhaps the "Eelgrass Bed" layer in the legend of Figure 2 can be changed to "Current and Potential Future Eelgrass Beds." (DEC)

Response MH-2
If the County was to change the title as suggested by the NYSDEC in Comment MH-2, it would basically be insinuating that only areas where eelgrass beds were historically present would be the only places that could potentially have future beds. Although, past environmental conditions of those historic areas may have been suitable for eelgrass propagation, it does not mean that no other areas in the Peconic Bay system would be suitable for eelgrass propagation in the future. Therefore, the layer's title will remain as is.

Comment MH-3
How will leases be assigned? Will there be prioritized areas for leases within the Shellfish Cultivation Zone? (DEC)

Response MH-3
As part of the program, the County is developing an Administrative Guidance document that will detail how areas will be assigned and what limitations will be placed on leasing depending on of where the lease area is located. Some priority will be given to existing aquaculture operations in regards to location and availability.

Comment MH-4
It is highly advisable during the Five Year Program review and other program assessments that the data, information and results from the current and ongoing Benthic Mapping project in the Peconic Bays must be considered and ways in which to integrated said information discussed. (DEC)

Response MH-4
Section 4.1.1.4 of the DGEIS discusses some of the preliminary results of the benthic mapping done by Dr. Roger Flood and Dr. Robert Cerrato and how it relates to the sediment characteristics of the bay bottom. As the preliminary results and as the mapping project moves into it next phases, the information gathered will used to support and refine procedures for mitigating any adverse impacts to sediment characteristics and benthic habitats associated with the County's leasing program.

Comment MH-5
When proposed lease applications are public noticed and comments/objections are solicited and submitted by stakeholders, what will be the process/criteria that the County will use for considering said comments/objections? Will the County coordinate lease applications with the NYSDEC to ensure proper alignment of programs and regulations? How will objections be resolved? (DEC)

Response MH-5
Section 2.6 component #14 (pg 51) of the DGEIS, addresses the process involved in documenting natural productivity of a proposed lease site. "If, during the application public comment period, a comment is received and documentation can be provided as proof to the presence of significant natural shellfish productivity on the proposed lease site, the applicant will not be permitted to lease that site. The County will identify what will be considered adequate documentation of the status of natural shellfish stock; such documentation may include, but not be limited to a field benthic survey of the lease site". In addition, the Administrative Guidance Document that is being completed as part of this program will provide further detail in describing the process for adequately addressing public comments.

Comment MH-6
Should it be the responsibility of the proposed lease applicant to provide proof of the presence of either significant natural shellfish productivity or no significant natural

shellfish productivity, and not that of the public? What will the County accept as "adequate" documentation? (DEC)

Response MH-6
The creation of the Shellfish Cultivation Zone was a laborious multiphase process taking over one year to complete. The purpose of the zone was to mitigate any possible issues with mixed uses of the area, including commercial wild shellfish harvesting. To further ensure that a lease will not be issued in areas where wild shellfish stock harvesting may occur, the public notice portion of the lease process allows for an additional level of approval. However, to ensure that erroneous accusations are not filed, the County feels that some responsibility should be placed on the concerned party initiating the issue. Adequate documentation requirements will be discussed in detail in the Administrative Guidance Document being developed as part of the program. The current draft of the document states: "For the County to deem an objection regarding natural productivity and commercial fish credible, the concerned party must include a copy of his/her commercial harvest license and documented proof on what was harvested and sold. A notarized letter from the concerned party stating harvest activity in the area in question within the last 5 years at a catch rate that is considered sustainable would also be a necessary requirement."

As described in the Administrative Guidance Document, "An accepted scientific method for performing a benthic survey appropriate for assessing shellfish abundance must be utilized, and a report of findings must be completed by qualified personnel and submitted to Suffolk County. The survey methodology to determine the existence of shellfish density that will support a sustainable catch rate will depend on the species in question. For hard clams, a mean density of less than 2 adults per square meter (greater than 1 inch shell thickness) would be considered low density and low productivity for clams. This estimate is based on the clam densities found during clam surveys from Long Island water bodies. Because of the transient nature of bay scallop populations, a density estimate is not a reliable way to address scallop productivity. Instead, the presence of scallops would have to be addressed on a case-by-case basis to render a decision as to whether an area is productive for scallops. Accepted methods of determining shellfish abundance would be bottom grab samplers and/or diver surveys, performed in a scientific manor. Statistically reliable estimates of shellfish abundance would need to be calculated from field survey work for the lease area in question."

Comment MH-7
Have the costs of leases been proposed? Will there be a cap on sub-lease costs? (DEC)

Response MH-7
According to the current Administrative Guidance Document, lease holders will be required to pay an annual rent fee as described below. Payment will be due 30 days before the lease anniversary date (i.e., if the lease was issued on February 1st, the annual lease rental fee would be due 30 days before that date of each year).

	Non-Commercial Lease	***Standard Commercial Lease***
Annual Rent Fee	*$200 plus $5 per acre, and a $100 non-refundable application fee*	*$200 plus $5 per acre for lease, and a $100 non-refundable application fee*

Comment MH-8
Will leases need to be obtained by entities interested in conducting general estuary-wide shellfish restoration programs/projects? Will those routine restoration activities be precluded and not allowed within areas of the shellfish Cultivation Zone unless leases are obtained? Will the on-bottom placement of shell, for purposes of restoration, be allowed under leases? (DEC)

Response MH-8
As described in more detail in Section 2.6 component #34 (pg. 55) of the DGEIS document, leases for shellfish restoration will be allowed in the program. These leases must be located in the Shellfish Cultivation Zone and will be judged on a case-by-case basis.

Comment MH-9
The DGEIS states that "the waters of the Peconic and Gardiners Bays are classified under 6NYCRR Part 661 as Littoral Zone (LZ); and therefore, NYSDEC regulations promulgated under the Tidal Wetlands Act would require this DGEIS to identify and mitigate any impacts as designated by the Tidal Wetlands Act that may be associated with the proposed program." While the 1974 Tidal Wetlands maps do show the LZ classification, Part 661 states that "there shall be no littoral zone under waters deeper than six feet at mean low water." (DEC)

Response MH-9
Based on input received from Comment MH-9, part of Section 2.7.2 of the DGEIS will be modified to read in this FGEIS: "the waters of the Peconic and Gardiners Bays <u>that</u> are classified under 6NYCRR Part 661 as Littoral Zone (LZ)."

Comment MH-10
Significant data and information have been presented addressing water quality and water quality concerns and issues in Peconic and Gardiners Bays; however, there is no mention of the USEPA approved Total Maximum Daily Loads (TMDLs) that exist for several Peconic waterbodies with pathogens and dissolved oxygen impairments. Both TMDL documents referred to in this comment ("Peconic Bay Pathogens TMDL," September 2006 and "Total Maximum Daily Load for Nitrogen in the Peconic Estuary Study Area, Including Water Bodies Currently Impaired Due to Low Dissolved Oxygen: the Lower Peconic River and Tidal Tributaries; Western Flanders Bay and Lower Sawmill Creek; and Meetinghouse Creek, Terrys Creek and Tributaries," Sept 2007) are available on the NYSDEC website. (DEC)

Response MH-10
Both of the documents mentioned in Comment MH-10, are referenced and cited several times throughout the DGEIS document when the information in those documents was relevant to the County's shellfish lease program. Most if not all of the areas discussed in both documents are within the 1,000 foot buffer zone; and therefore, are not being considered as part of the leasing program. The majority of the impairment sources discussed in the documents described above are point and non-point upland sources, and neither document discusses any activities associated with shellfish aquaculture causing significant adverse environmental impacts on those areas. In fact, the 2007 report (pg. 62) lists shellfish restoration as a possible implementation consideration as a means of sequestering or removing nitrogen.

Comment MH-11
More time should be spent discussing the presence and density of SAV beds as identified in the Tiner, R.W., H.C. Bergquist, D. Siraco, and B.J. McClaisn. 2003. An Inventory of Submerged Aquatic Vegetation and Hardened Shorelines for the Peconic Estuary, New York. (DEC)

Response MH-11
Although there was not a detailed discussion in the DGEIS relating to the report mentioned in Comment MH-11, most of the eelgrass areas (both current and historic) on the Environmental and Socio-Economic Sensitive Areas (Figure 2 of DGEIS) were reviewed and considered in the creation of the Shellfish Cultivation Zone (Figure 3 of the DGEIS). Additionally, the boundaries of the cultivation zone were delineated to exclude eelgrass beds in consideration of information provided by Chris Pickerell and Steve Schott from their work associated with the report mentioned in Comment MH-11.

Comment MH-12
Please address the potential impact for aquaculture activities and gear to attract undesirable non-native, invasive, and/or nuisance species. (DEC)

Response MH-12
Early detection of new introductions and routine monitoring of existing populations are feasible in most freshwater habitats; however, once a non-native species becomes established in a marine system, the management options for control and eradication are virtually non-existent. The focus for addressing marine undesirable non-native, invasive, and/or nuisance species must be targeted on interrupting the pathways or vectors of non-native species and preventing new introductions through education, regulation or policy (Connecticut Aquatic Nuisance Species Working Group, undated). Therefore, some mitigation methods suggested in the DGEIS (Section 4.1.3.9) and enacted by regulatory agencies include: the use of native species only; restriction on the source of shellfish; health certification prior to issuance of permit; Shellfish Importation Permit requirements; and genetically altered strains are not permitted to be introduced into State water with the exception of disease resistant stocks.

Comment MH-13
As identified as a mitigation effort in response to leasing program impacts on natural resources, no buffer zone width/area between or surrounding leases, beside the 1,000 ft shoreline buffer required for aquaculture leases, has been identified or proposed in the DGEIS. Also, will there be, or should there be a limit on how many lease are located in a given area? (DEC)

Response MH-13
The County is in the process of developing an Aquaculture Lease Area Map that depicts locations in the project area where new leases may be permitted. This map includes a grid network that provides for 20-acre grids within which 10-acre lease plots are located. Hence, buffer zones will be established that separate leased areas. Although there are numerous grids throughout the Peconic Bay system, these grids only represent potential areas for leasing and do not necessarily mean that they will be leased. All the new lease plots depicted on this map must go thought the leasing process in order to be granted permission to lease, which may include limits on how many leases will be granted in a particular area.

Comment MH-14
For each of the "existing conditions/settings" addressed in Section 4's subheadings, a corresponding thorough impact analysis must be conducted. The DGEIS does address impacts in Section 4, but only selective impacts; not necessarily pertaining directly to each of the preceding "existing conditions/setting" as a DGEIS should. (DEC)

Response MH-14
Nowhere in Section (5.4) Environmental Setting of the SEQR Handbook does it state that all existing conditions/settings described in this section must be discussed in the impact analysis section. In fact, it states that attention should be focused on those environmental characteristics that are most likely to be affected by the project.

Comment MH-15
While the project study area consists of approximately 110,000 acres of underwater lands in Peconic Bay and Gardiners Bay, there is no quantification provided of underwater land acreage within the proposed Shellfish Cultivation Zone. (DEC)

Response MH-15
Based on input received from the ALPAC committee, CEQ and the public, the proposed Shellfish Cultivation Zone map in the DGEIS has been modified to include quantified underwater land acreage in the legend of the map, totaling approximately 32,720 acres (Appendix G), and was distributed to ALPAC committee for review on June 26, 2008.

Comment MH-16
Clarification is needed for allowable lease acreage given consideration that there is no size limit for leases on existing oyster grants. This will likely have implications on the expansion of mechanical harvesting and related impacts. (DEC)

Response MH-16
See Response DGEIS-20 of this document.

Comment MH-17
Possible factors to explore: to compare among baseline, lease impacted and non-impacted sites within the estuary, up-current and down-current of lease sites, harvest methodologies. Seasonal monitoring – six times a year? (DEC)

- Bottom and pelagic fish abundance and diversity
- Benthic community composition
- Sediment characteristics
- Chlorophyll
- Plankton community composition (including phytoplankton and larvae)
- Temperature, dissolved oxygen, salinity, nitrogen, turbidity, other
- SAV health/type and changes in density/distribution
- Monitoring of natural shellfish beds health and composition
- Waterfowl census
- Dive surveys/transects

Response to MH-17
As the County moves forward with this program, it will take into consideration the factors discussed in Comment MH-17 when developing criteria for the monitoring component of the proposed action.

2.10 Shellfish Management

Comment SM-1
The project area which includes Reeves Bay, described as the Inner Estuary, is outside Suffolk County's leasing authority established pursuant to Section 13-0302 of the ECL. The project area which includes West Neck Harbor, Long Beach Bay and Hallock Bay, described as the Middle Estuary, is outside the County's authority for leasing. The project area which includes Coecles Inlet, Three Mile Harbor, Accabonac Harbor, Napeague Harbor and Lake Montauk, described as Outer Estuary, is outside the County's authority for leasing. (DEC)

Response SM-1
Based on input received from Comment SM-1, part of Section 2.2 of the DGEIS (pg. 32) will be modified to read in this FGEIS:

"As described by Suffolk County Department of Health Services (SCDHS) in their document Brown Tide Comprehensive Assessment and Management Program Summary (SCDHS, 1992), the Peconic Estuary comprises a total of approximately 158,000 acres of surface water area (Peconic Estuary Program, accessed from www.peconicestuary.org/AboutPEP.html on February 26, 2008). The project area consists of approximately two thirds of the open water in the estuary, approximately 110,000 acres. The Estuary is naturally divided by peninsulas (necks) and islands into a series of interconnected embayments. These include:

- *The inner estuary (west of Robins Island) – Flanders Bay (including Reeves Bay) and Great Peconic Bay.*
- *The middle estuary – Little Peconic Bay (including Cutchogue Harbor and Hog Neck Bay), West Neck Harbor, Noyack Bay, Sag Harbor Bay, Sag Harbor Cove, Northwest Harbor, Southold Bay, Shelter Island Sound, and Orient Harbor (including Long Beach Bay and Hallock Bay); and*
- *The outer estuary (east of Shelter Island) – Gardiners Bay (including Coecles Inlet and Three Mile Harbor), Napeague Bay (including Accabonac Harbor and Napeague Harbor), and western Block Island Sound (including Lake Montauk).”*

Comment SM-2
Existing Temporary Assignments within the shellfish cultivation zone can convert to 5-acres leases without benthic survey requirements. Are these limited to Off-Bottom Culture only as currently specified under a Temporary Marine Area Use Assignment? If not then ground truthing of the natural productivity of these areas is recommended. (DEC)

Response SM-2
As explained in Section 2.6 components 20 and 22 of the DGEIS, temporary assignments being converted over to the leasing program within the Cultivation Zone and without any change to his/her operations or size do not need to provide a benthic survey. But if a temporary assignment holder converting over to the leasing program wishes to expand their operation or size, and if there is a concern received during the public comment period indicating that significant natural shellfish stocks exist in the proposed lease area the applicant would then have to either choose another site or conduct a benthic survey at his/her own cost.

Comment SM-3
Pending applications for TMAUAs received prior to 12/31/07 will be included in the lease program. How will TMAUAs received after that date be handled and will these sites be considered part of the new leases? (DEC)

Response SM-3
All TMAUAs applications received by the NYSDEC after the 12/31/07 deadline will be treated as new applications if they are to become part of the County’s aquaculture lease program, and will be considered part of the one percent growth increase.

Comment SM-4
There should be an acreage limit on leases established on private oyster grants. Establishing a limit on acreage for leases on grant lands will reduce user conflicts and potential impacts from harvest gear and be more consistent with the overall framework for the proposed leasing program in Peconic and Gardiners Bay. This will further support a framework for the development of aquaculture that is consistent with the types of aquaculture that are currently undertaken in the Peconic Bay System. (DEC)

Response SM-4
Because the NYSDEC has permitted several grant owners permission to cultivate species other than oysters on all or part of their grant lands, it would not be in the best interest of this program and possibly considered an unconstitutional taking to now limit the acreage on those parcels. Therefore, if a grant owner can prove that they have obtained permits and have indeed been cultivating their grants or any portion there of, they will be allowed to continue with their operation under this program. The grant owners should not be penalized because they have already secured proper approvals and permits from NYSDEC under the Environmental Conservation Law.

Comment SM-5
Fallow grants located east of Shelter Island should be excluded from the leasing program. Furthermore, fallow grants located in the proposed shellfish cultivation zone west of Shelter Island should be subject to benthic surveys if leases are desired. (DEC)

Response SM-5
As described in Section 2.6 component #28 (pg. 54) of the DGEIS, if a grant has not been used for shellfish aquaculture within a time frame established by the County (i.e., been fallow for an extended time), it can enter the program in a limited phased process. Each lease application on a fallow grant would need to go through a County review process that would include public notification. This process is explained in more detail in the County's draft Administrative Guidance Document currently being developed, and a grants inclusion in the program is described as follows:

"Existing Private Oyster Grants

- *i.) Oyster grant owners do not need to apply for a shellfish aquaculture lease if their farm operations are limited to oyster cultivation only. They must apply for a lease if they wish to cultivate shellfish species other than oysters. Any such leases issued do not count toward the cap of new acreage to be leased during the first two 5-year periods of lease program implementation.*
- *ii.) An oyster grant holder can apply for a lease on his/her grant, or a portion thereof, if the owner can document a prior historical or current use of the grant for shellfish aquaculture involving species other than oysters. To be considered active, the grant holder will need to provide documentation that aquaculture operations have been conducted on the grant within the 10-year period between January 1, 1999 and December 31, 2008. Documentation can consist of: receipt for purchase of seed stock; proof of revenue from shellfish sales from the subject parcel; or other documentation confirming that viable aquaculture activity has taken place on the grant. Copies of relevant NYSDEC permits will also need to be provided. Active grant holders can apply for a lease on their grant subject to the procedures outlined in the Lease Application.*
- *iii.) The County has identified a number of grants with title conflicts. Leases will not be issued on such grants until all title conflicts are resolved, and documentation/proof of same has been submitted to the County.*
- *iv.) If a grant has had no permitted aquaculture activity involving species other than oysters for the 10 year period between January 1, 1999 and December*

31, 2008, it will be considered "fallow" and may only enter the Lease Program in a limited phased process. A fallow grant holder may apply for up to two 10-acre leases on his/her site during the first five years of the Lease Program and will be subject to the full application process including public review and comment. The program will be evaluated after five years and at that time the determination will be made to possibly expand leases on these formerly fallow grants."

Comment SM-6
One percent increase in acreage - This figure should not include the total acreage of existing private oyster grants within the study area given the fact that less than 25% of the grants are currently being used for cultivation of any type of shellfish. (DEC)

Response SM-6
Currently, under State Law all of the private oyster grants, whether fallow or active are legally entitled to cultivate oysters and can do so if desired; therefore, all private grant acreage was included in determining the one percent growth figure.

Comment SM-7
Potential for issuing leases larger than 10 acres – This should also apply to fallow oyster grants located within the shellfish cultivation zone. (DEC)

Response SM-7
As described in the current draft of the Administrative Guidance Document, "If a grant has had no permitted aquaculture activity involving species other than oysters for the 10 year period between January 1, 1999 and December 31, 2008, it will be considered "fallow" and may only enter the Lease Program in a limited phased process. A fallow grant holder may apply for up to two 10-acre leases on his/her site during the first five years of the Lease Program and will be subject to the full application process including public review and comment. The program will be evaluated after five years and at that time the determination will be made to possibly expand leases on these formerly fallow grants."

Comment SM-8
Page 69 of the DGEIS: There are several incorrect references to citations made for ECL Sections which include general prohibited acts and regulatory authority rather than specific permits from DEC. (DEC)

Response SM-8
The Department correctly notes that the discussion in the DGEIS, Section 2.2.2 subtopic, Shellfish Permits under the Fish and Wildlife Law, does not clearly identify and define the common relationship between the statutory provisions listed therein. The intention for this subtopic is to identify and summarize statutory provisions related to permitting for shellfish related activities [which are also similarly addressed in the DEC regulations found in 6 NYCRR §175.1 (c)]. This discussion presented below replaces the one

*contained in the DGEIS which follows the subtopic heading: "***Shellfish Permits Under the Fish and Wildlife Law:***"*

"ECL § 13-0319 is the overall enabling statute which empowers the Department to regulate shellfish, including but not limited to the authority to regulate and administer through permitting.

There are four statutory provisions for specific permits to be regulated by, and administered through the DEC, namely:

i. ECL §13-0311 (Digger's Permit);
ii. ECL §13-0313 (Bed Permit);
iii. ECL §13-0315 (Shellfish Shipper's and/or Processor's Permits, Classes A-E); and
iv. ECL §13-0316 (Permits for Marine Hatcheries, and On-Bottom & Off-Bottom Culturing).

There are five statutes (ECL §§ 13-0309, 13-0321, 13-0323, 13-0325, & 13-0327) which provide general prohibitions and requirements which are to be regulated and administered by the DEC, and within these statutes there are also provisions identifying specific activities which are required to be administered by the DEC through permits, with the manner of permitting left to the Department's discretion [see 6 NYCRR §175.1]. These provisions are:

i. ECL §13-0309 (3) f., permit required for taking mussels using a dredge of a certain size and operated in a specific manner;
ii. ECL §13-0309 (10), permit required for possessing a stick dredge;
iii. ECL §13-0309 (11), permit required for possessing rakes or tongs;
iv. ECL §13-0309 (12), requires the Department to include permit requirements in its regulation of surf, sea, hen, and skimmer clams, and ocean quahogs;
v. ECL §13-0321 (2), permit required for taking shellfish from uncertified lands for transplanting or other purposes;
vi. ECL §13-0323 (3), permit required for planting or transplanting oysters, other than the species Crassostrea virginica;
vii. ECL §13-0325 (2), permit required for certain transplanting operations for hard clams less than one inch in thickness; and
viii. ECL §13-0327 requires the Department to include permit requirements in its regulation of scallops."

Comment SM-9
Page 70 [DGEIS] Article 13, ECL 13-0321: The reference to permitting requirements under ECL 13-0309 is not correct and should be ECL Section 13-0319. (DEC)

Response SM-9
The reference within ECL §13-0321 to ECL §13-0319 relates to the regulatory authority granted to the Department to define permit requirements. The typographic error in the identification of the enabling statute is changed from "ECL §13-0309" to "ECL §13-0319."

Comment SM-10
Page 71 of the DGEIS contains inaccurate descriptions of the various sections and programs in BMR. (DEC)

Response SM-10
The descriptions of the various sections and programs in the NYSDEC's Bureau of Marine Resources (BMR) contained in the DGEIS were taken from the NYSDEC's website, "Bureau of Marine Resources," (http://www.dec.ny.gov/about/796.html; accessed 9/14/2007). To elaborate further to clear up any inaccuracies in the descriptions provided in the DGEIS from the Department's website, it would be necessary for the DEC to provide clarification as to what inaccuracies it is referring to in its comment.

Comment SM-11
Permit for Possession, Transportation, Taking and Handling of Shellfish – Reference to 6NYCRR Part 43 is incorrect and should be Part 42. (DEC)

Response SM-11
The Department's comment relates to the Section 2 subtopic discussion of the DEC's regulation, 6 NYCRR Part 175, Special Licenses and Permits – Definitions and Uniform Procedures, particularly § 175.1 (c), Applicability, [item] (11), which identifies applicable statutory authority for permitting under this regulation, including "ECL §13-0309-Possession transportation, taking and handling of shellfish …." As part of the subtopic discussion of this regulation, The author also cross referenced the cited statutory authorities for this regulation, as in this case, ECL §13-0309, with other Shellfish regulations which cite the same statutory authority (or authorities). 6 NYCRR Part 43: Surf Clam/Ocean Quahog Fishery Management is the only regulation under Subchapter F: Marine Fisheries which specifically identifies ECL §13-0309 as controlling authority [see http://www.dec.ny.gov/regs/1236.html (accessed 7/24/08)], while 6 NYCRR Part 42 does not identify this statute as controlling authority. Therefore, the DGEIS subtopic discussion will remain unchanged.

Comment SM-12
Shellfish Shipper's and Processor's Permit – Should include reference to Part 42; - Marine Hatcheries, Off-Bottom and On-Bottom Culture Permits – Incorrect reference to Part 43; only Part 48 applies. (DEC)

Response SM-12
As stated above for the prior DEC comment, the Department's comment relates to the Section 2 subtopic discussion of the DEC's regulation, 6 NYCRR Part 175, Special Licenses and Permits – Definitions and Uniform Procedures, particularly § 175.1 (c), Applicability, [item] (11), which identifies applicable statutory authority for permitting under this regulation, including "section ECL §13-0315- Shellfish shipper's and processor's permits; section ECL §13-0316- Marine hatcheries, off-bottom and on-bottom culture permits …" The author also cross referenced the cited statutory

authorities for this regulation, as in this case, ECL §§13-0315 and 13-0316, with other Shellfish regulations which cite the same statutory authority (or authorities).

The Department correctly notes that 6 NYCRR Part 175.1 (c), Applicability, (11) "…section ECL §13-0315- Shellfish shipper's and processor's permits…" in the DGEIS should be cross-referenced to 6 NYCRR Part 42; and the DGEIS is hereby revised to include this reference within the subtopic discussion.

However the Department incorrectly notes that 6 NYCRR Part 175.1 (c), Applicability, (11) "…section ECL §13-0316- Marine hatcheries, off-bottom and on-bottom culture permits …" is listed in the statutory authority for 6 NYCRR Part 48, and not for 6 NYCRR Part 43 [see http://www.dec.ny.gov/regs/1236.html (accessed 7/24/08)]. Therefore, the DGEIS subtopic discussion and regulatory references for this statute will remain unchanged.

Comment SM-13
Permit for Taking of Surf Clams should reference Part 43. (DEC)

Response SM-13
As stated above for the prior NYSDEC comment, the Department's comment relates to the Section 2 subtopic discussion of the NYSDEC's regulation, 6 NYCRR Part 175, Special Licenses and Permits – Definitions and Uniform Procedures, particularly § 175.1 (c), Applicability, [item] (11), which identifies applicable statutory authority for permitting under this regulation, including "…section ECL §13-0325- Permit to take, harvest, possess and transplant hard clams and license for boat to take surf clams…" is not listed in the statutory authority for 6 NYCRR Part 43 [see http://www.dec.ny.gov/regs/1236.html (accessed 7/24/08)]. Therefore, the DGEIS subtopic discussion and regulatory references for this statute will remain unchanged.

Comment SM-14
6NYCRR Part 42 – Only applies to the taking of surf clams by mechanical means from the area in Gardiners and Napeague Bays located east of a line from Orient Point to Hog Creek Point. This could conflict with leases for aquaculture if this area is included in the shellfish cultivation zone. (DEC)

Response SM-14
The NYSDEC's comment relates to 6 NYCRR § 43-1.5 (a) which provides that: "The mechanical harvesting of surf clams and ocean quahogs pursuant to this Subpart may only be undertaken in the following areas: …(2) Gardiners and Napeague Bays East of a line extending between Orient Point, Town of Southold, New York, and Hogs Creek Point, Town of East Hampton, New York." The westernmost portion of this area is within the easternmost section of the Shellfish Cultivation Zone. The authority granted to Suffolk County under ECL §13-0302 is for shellfish aquaculture and leasing underwater lands (within its jurisdiction as defined by the statute), while the authority to regulate and permit aquaculture activities remains with the State. Although 6 NYCRR § 43-1.5 (a) may restrict certain activities relating to surf clams and ocean quahogs pursuant to this

Subpart within any future County aquaculture leases within certain areas of the easternmost section of the Shellfish Cultivation Zone, it would not necessarily preclude all aquaculture activities under a County lease program, nor would it necessarily prohibit the County from leasing underwater lands within this area that would otherwise be available under the authority granted by ECL §13-0302. However, the DEC's comment is noted as included as part of this FGEIS.

Comment SM-15
Part 45 – Transplanting Shellfish – The EIS incorrectly states that if the County transplants or imports shellfish they are exempt from permit requirements. The exception only applies to individual shellfish transplant harvester permits that may be associated with a shellfish transplant project. Any person and municipalities or political subdivision are required to comply with permit requirements for shellfish transplant or importation permits (see Part 45.3(a)(1)). (DEC)

Response SM-15
The NYSDEC's comment provides the correct interpretation of 6 NYCRR § 43-1.5 (a)(1) whereby the municipal exemption applies only to a Shellfish Transplant Harvester's Permit; and therefore, the County would be subject to all other permit requirements provided for within this Subpart. This response replaces the last sentence on page 73 of the DGEIS subtopic, entitled: **" 6 NYCRR Part 45 Transplanting Shellfish."**

Comment SM-16
Part 48 – Inaccurate statements made on prohibition of sale of product less than legal size. The regulations allow sale of marine plant and animal life of less than legal size as specifically defined under the provisions of ECL Section 13-0316. (DEC)

Response SM-16
The NYSDEC's comment correctly notes that 6 NYCRR § 48.2 (d) allows for the sale, offer for sale or trade of marine plant or animal life of less than legal size only as expressly authorized according to ECL §13-0316. This response replaces the last sentence of the first paragraph of the DGEIS subtopic, entitled: **"6 NYCRR Part 48 Marine Hatcheries, On-Bottom and Off-Bottom Culture of Marine Plant and Animal Life"** *on page 74.*

Comment SM-17
Part 49 – Allows a size exemption for oysters cultivated or transplanted under permit from DEC. (DEC)

Response SM-17
The NYSDEC's comment correctly notes that the statement in the last sentence of the DGEIS subtopic on page 74 entitled: **"NYCRR Part 49 Shellfish Management"** *should also note that according to the regulatory provision found in 6 NYCRR that § 49.2 (c)(1), "Except as provided in paragraph 4 of this subdivision, oysters (Crassostrea virginica) less than three inches in the longest diameter shall not be taken, possessed on the water for the marine and coastal district, or landed. This size limit shall not apply to oysters*

transplanted or cultured under permit from the Department subject to the provisions of sections 13-0316, 13-0319 and 13-0321." Therefore, the NYSDEC's comment is noted as included as part of this FEIS.

Comment SM-18
Reference to various town shellfish codes – These codes go beyond the authority of the various towns and include species not defined under the ECL as "shellfish" which are all types of clams, mussels, oysters and scallops. (DEC)

Response SM-18
It is beyond the scope of the DGEIS, this FGEIS and the County to determine whether or not a Town has exceeded its authority by enacting a Town code containing a definition for "shellfish" which includes species not identified in the ECL definition. In addition, the DGEIS does list definitions of shellfish as described in Town codes, but nowhere in the document does it discuss or list authoritative actions by these Towns on species other than clams, mussels, oysters and scallops.

Comment SM-19
Summary of Various Permits – Under the Shellfish Culture Permit, this is subject to review by the Regional DEC Environmental Permits office and may include other applicable permits issued by the DEC. (DEC)

Response SM-19
As stated in Section 2.7.4 (pg. 88) of the DGEIS "Table 1 represents the basic permits and notification requirements an individual must obtain to conduct shellfish aquaculture under the proposed Lease Program. Additional permits (e.g., transplant permit, seed relay permit) may be required depending on the types of activities a lease holder may conduct as part of their operation."

Comment SM-20
Bed permits – These permits apply to "privately controlled lands owned, leased or rented for cultivation and marketing of shellfish" and would apply to the lease program. (DEC)

Response SM-20
*As stated in Section 2.7.4 (pg. 88) of the DGEIS beneath Table 1, "**Shellfish Growers Bed Permits apply to privately-owned underwater lands (oyster grants) as per personnel communication with J. Thiel (NYSDEC) on October 27, 2007."*

Comment SM-21
Harvest Methods – Harvesting of shellfish on public underwater lands is restricted to hand-operated methods is not accurate. There are certain species exceptions that allow the use of mechanical harvesting gear on public or unleased underwater lands such as bay scallops, blue mussels, surf clams and use of pot haulers to retrieve a clam rake back onboard the harvest vessel (see ECL 13-0309(3)). (DEC)

Response SM-21
Section 2.9.2 of the DGEIS is discussing and states harvest methods on cultivated sites (not wild stock areas), therefore the statement is accurate. Currently, there are two different types of shellfish cultivation activities operating in the Peconics: Temporary Marine Area Use Assignments (TMAUAs); and culturing on private oyster grants. According to the NYSDEC, TMAUAs are off-bottom cultivation only and no mechanical methods are permitted but the NYSDEC has permitted the use of hydraulic dredges on private oyster grants as long as they meet the requirements set forth by the NYSDEC to do so.

Comment SM-22
Table on Oyster Grant Parcels – Oyster Grant No. 58 (Map ID) in Little Peconic Bay is approved for culture of hard clams. (DEC)

Response SM-22
At the time of the DGEIS presentation, the information provided in the table on page 110 was depicting the most accurate information available to the County. Since than and after meeting with the NYSDEC the status and permitted activities of the private oyster grant parcels have been updated and this new information was presented at the June 26, 2008 ALPAC meeting, and indicates that that parcel does have 2007-2008 permits to cultivate both oysters and hard clams. The NYSDEC has been present during all these meetings and therefore advised of these updates.

Comment SM-23
TMAUAs are also subject to review by New York State Office of General Services. (DEC).

Response SM-23
Based on input received from Comment SM-23, part of Section 3.2.2 of the DGEIS (pg. 11) will be modified to read in this FGEIS: "All applications are reviewed by NYSDEC, US Army Corps of Engineers, the US Coast Guard, NYS Department of State, NYS Department of General Services, and Suffolk County."

Comment SM-24
State Relay Program – references to "depuration" should be changed to "natural cleansing." (DEC)

Response SM-24
All references to depuration in the DGEIS relating to the State Relay Program are hereby corrected to "natural cleansing."

Comment SM-25
Statement that each volunteer in the SPAT program has the potential to grow 50,000 to 100,000 shellfish is incorrect. This may apply to the total production from all volunteers involved in this program. (DEC)

Response SM-25
Based on input received from Comment SM-25 and consulting with Cornell Cooperative Extension, part of Section 3.2.2-Town of Southold of the DGEIS (pg. 121) will be modified to read in this FGEIS: "Each volunteer has the potential to grow up to 1,000 oysters."

Comment SM-26
Reference to Northwest Harbor being uncertified is incorrect. The closure applies to Northwest Creek. (DEC)

Response SM-26
Based on input received from Comment SM-26, part of Section 4.1.1.2 of the DGEIS (pg. 133) will be modified to read in this FGEIS: "Year-round uncertified shellfish harvesting areas due to impaired water quality are located within the western portion of Flanders Bay; Shelter Island Sound, between Greenport and Dering Harbor; and Northwest Creek.

Comment SM-27
Section 4.1.1.6 Shellfish Pathogens/Disease/Exotic Species – this section failed to mention the distribution and prevalence of QPX in wild and transplanted clams in certain locations of Peconic Bays and other locations in the marine district. (DEC)

Response SM-27
NYSDEC, in cooperation with Marine Animal Disease Laboratory at Stony Brook University (MADL), currently monitors hard clams at various locations throughout the marine district in an effort to determine the evolution and trends in QPX prevalence. The monitoring effort takes into account the temporary and spatial changes in QPX prevalence demonstrated in previous monitoring efforts. In 2004, QPX prevalence significant dropped in overall prevalence of the parasite. The four QPX-positive sites were restricted to the central portion of Raritan Bay.

Comment SM-28
Section 4.1.2.1 – Amplification of Native and Exotic Shellfish Diseases – This section only addresses the potential introduction of shellfish diseases through importation of seed, contaminated water, containers, etc. It does not describe the potential occurrence of shellfish diseases due to planting of shellfish at high densities in either off-bottom or on-bottom culture which is well above the densities typically observed in natural populations. (DEC)

Response SM-28
Although there is the potential for shellfish diseases to occur in high densities of cultured shellfish, as opposed to what may typically be observed in natural populations, the County's program has recommended several mitigation methods to help reduce the likelihood of such occurrences including: limiting lease sizes and areas; limiting lease numbers; limiting the types of leases; limiting biomass of shellfish; establishing buffers

around leases and environmental resources; requiring disease testing of shellfish; use of local seeds; and monitoring environmental conditions.

Comment SM-29
The description of various suction dredges includes a reference to cutterhead dredges. The cutterhead dredge is used for maintenance (sediment type) dredging projects and is not used for shellfish harvest. (DEC)

Response SM-29
There is little scientific literature pertaining to the impacts of dredging activities from cultured shellfish harvesting. Most scientific studies on the effects of dredging activities to marine environments pertain to large-scale dredging operations (for removal of sediments). Such documents were reviewed and included in the DGEIS to identify potential impacts that could occur to a much lesser degree when considering mechanical shellfish harvest.

Comment SM-30
References and discussion in this section about scallop dredges should clarify that they are referring to sea scallop dredging and not the typical dredges that could be used in Peconic Bays. This section should provide a better description for the types of harvest gear, frequency of harvest, and scale of operations that are likely to take place under the proposed action. (DEC)

Response SM-30
An in-depth review of potential impacts from hydraulic dredging for shellfish aquaculture harvest purposes is included in Appendix E.

Comment SM-31
Turbidity Plumes – Reference is made to turbidity plumes in subtidal and intertidal areas. Shellfish dredging does not occur in the intertidal area in New York and the lease program area will only be in subtidal areas. This section is relatively weak and does not attempt to quantify or describe the scale of mechanical harvest that would be expected to be undertaken in the proposed action. (DEC)

Response SM-31
An in-depth review of potential impacts from hydraulic dredging for shellfish aquaculture harvest purposes is included in Appendix E.

Comment SM-32
The total area currently used for aquaculture in Peconic and Gardiners Bays on TMAUAs and oyster grants is less than 2,000 acres. The scale of the leasing program could be significantly reduced if limits were placed on the number of leases to be issued on private oyster grants. (DEC)

Response SM-32
As discussed in Response SM-5 above, there are several limits placed on private oyster grants and depending on location, past usage and current activity (including current activities permitted by NYSDEC) the County will determine whether and how a grant owner may enter the lease program. However, it should be noted that the total acreage being permitted on private grants will have no effect on the current new growth percentage allowance of 60 additional acres a year for the first 10 years (an additional 600 acres of new lease area).

Comment SM-33
The inclusion of all oyster grant lands in the shellfish cultivation zone regardless of conflicts with established fisheries, natural productivity of shellfish beds, and other identified conflicts is inconsistent with the statutory requirements of ECL 13-0302. By limiting the number and size of the leases that may be issued on oyster grant lands, potential impacts on benthic habitat and user conflicts in Peconic and Gardiners Bays will be reduced. This is critical to the implementation of a leasing program that will allow the promotion of aquaculture to be undertaken without having any significant or undesirable impacts to the Peconic Estuary. (DEC)

Response SM-33
Again as stated in Response SM-5 above, there are several limits placed on private oyster grants and depending on location, past usage and current activity (including current activities permitted by NYSDEC) the County will determine whether and how a grant owner may enter the lease program. However, past and current permitting actions by the NYSDEC have allowed for several private oyster grant owners to cultivate species other than oysters on all or part of the grant lands, and therefore they should be entitled to continue to do so under the County's leasing program.

Comment SM-34
This section (4.1.3.6) has some inaccurate statements about use of mechanical harvest gear. Also, private oyster grant holders must obtain a permit from the NYSDEC for on-bottom culture in order to cultivate any species of shellfish, not just species other than oysters. (DEC)

Response SM-34
Because Comment SM-34 is not specific as to what inaccurate statements about the use of mechanical harvest gear are in Section 4.1.3.6 of the DGEIS, this FGEIS can not respond to that statement. However, based on input received from Comment SM-34, part of Section 4.1.3.6 of the DGEIS (pg. 232) will be modified to read in this FGEIS: "Currently, private oyster grant holders must obtain a NYSDEC on-bottom culture permit to cultivate any shellfish species, etc."

Comment SM-35
Establishing buffer zones – may help to mitigate conflicts due to overlap but does not replace the statutory requirement for boundary surveys to be conducted of all leased areas. (DEC)

Response SM-35
It was not the intent of the statement "A buffer zone may also help to mitigate the need for an accurate survey of each lease area", to imply that there would be no need for a survey, but merely to state that a buffer zone could lessen the impacts associated with the location of each lease area as it relates to the lease program.

Comment SM-36
Reference to seed being obtained from reputable dealer is inaccurate. Seed may only be obtained from a licensed marine hatchery, an on/off –bottom culture permit holder or as authorized under a shellfish transplant permit. (DEC)

Response SM-36
Based on input received from Comment SM-36, the statement in Section 4.1.3.9 of the DGEIS (pg. 234) "If this is not possible, seed may be obtained from reputable dealers elsewhere, as close as possible to the culture site" will be removed and replaced with "Seed may only be obtained from a NYSDEC licensed marine hatchery, an on/off-bottom culture permit holder, or as authorized under a shellfish transplant/importation permit" in this FGEIS.

Comment SM-37
Majority of hard clams harvested from the PBS are cultured in racks and do not involve hydraulic dredging. (DEC)

Response SM-37
A sufficiently detailed review of potential impacts associated with shellfish harvesting through the use of dredges (specifically hydraulic dredges) is presented in Appendix E.

Comment SM-38
Oysters are typically harvested by non-hydraulic (dry dredges); the term non-mechanical is incorrect. (DEC)

Response SM-38
Based on input received by Comment SM-38, the DGEIS will hereby be corrected to read "that oysters are typically harvested by non-hydraulic dredges in this FGEIS."

Comment SM-39
Characteristics of Commercial Fisheries – ECL Section and regulation listed for commercial fishing licenses/permits for marine species are incorrect. Is should be as required by Article 13 and 6NYCRR parts 40 and 44. (DEC)

Response SM-39
Based on input received from Comment SM-39, the statement in Section 4.2.11.3 of the DGEIS (pg. 258) "Commercial fishing licenses/permits are required for the commercial harvest of all marine species in New York State (ECL §11-1501 & 11-1521, 6NYCRR Part 175)" will be removed and replaced with "Commercial fishing licenses/permits are

required for the commercial harvest of all marine species in New York State (ECL Article 13 and 6NYCRR Part 40 and 44)" in this FGEIS.

Comment SM-40
Maritime Traditions – Reference to Three Mile Harbor does not apply because it is outside of the jurisdiction of the leasing program and would not be impacted (Town controlled). (DEC)

Response SM-40
Three Mile Harbor, although outside of the jurisdiction of the proposed Lease Program, was included in the discussion of areas of recreational boating because of the amount of boating traffic in the vicinity of the harbor that is within the jurisdiction of the County.

Comment SM-41
Limit Lease Size – This section has the potential to result in the most significant impact to the PBS if the size of leases are not restricted on private oyster grants. (DEC)

Response SM-41
Again as stated in Response SM-5 above, there are several limits placed on private oyster grants, and depending on location, past usage and current activity (including current activities permitted by NYSDEC) the County will determine whether and how a grant owner may enter the lease program. However, past and current permitting actions by the NYSDEC has allowed for several private oyster grant owners to cultivate species other than oysters on all or part of the grant lands, and therefore, they should be entitled to continue to do so under the County's leasing program.

Comment SM-42
Hazards to Navigation - This section incorrectly stated that submerged aquaculture gear is required by DEC to have attached floating devices. Submerged gear is not required to have floating devices or buoys unless required by the US Coast Guard. Most culturists try to minimize the number of surface buoys to reduce navigational hazards. (DEC)

Response SM-42
Based on input received by Comment SM-42, the DGEIS will hereby be corrected to read that submerged aquaculture gear is not required by NYSDEC but rather "submerged aquaculture gear may be required by the US Coast Guard to have attached floating devices."

Comment SM-43
Alternative 1B – Minimum lease with moderate growth - Generally support the proposed action of up to 300 acres over first five years subject to program review and update of shellfish cultivation map. However, we do not support the inclusion of all private oyster grants (those currently used for shellfish culture and fallow grants) in the leasing program. (DEC)

Response SM-43
Again as stated in Response SM-5 above, there are several limits placed on private oyster grants and depending on location, past usage and current activity (including current activities permitted by NYSDEC) the County will determine whether and how a grant owner may enter the lease program. However, past and current permitting actions by the NYSDEC has allowed for several private oyster grant owners to cultivate species other than oysters on all or part of the grant lands, and therefore, they should be entitled to continue to do so under the County's leasing program.

Comment SM-44
The DGEIS does not adequately describe the specific areas within the shellfish cultivation zone or the distribution of proposed leases within this zone which is necessary to assess the potential impacts of the proposed lease program. The assessment of harvesting methods for cultivated product only considers the small scale leasing of 5 to 10 acre parcels (up to 300 over five years) which may be minimal and fails to address the impacts associated with the culture of other species on private oyster grants which will be more significant. (DEC)

Response SM-44
Again as stated in Response SM-5 above, there are several limits placed on private oyster grants and depending on location, past usage and current activity (including current activities permitted by NYSDEC) the County will determine whether and how a grant owner may enter the lease program. Taken that into account, in 2007-2008 the NYSDEC has permitted 28 private oyster grants (totaling 2,695 acres) to cultivate shellfish and of them, 13 grants (totaling 1,446 acres outside the 1,000 foot buffer) have permits to cultivate species other than oysters on all or part of their grants (Appendix H). Currently, under the County's program these 13 private grants with NYSDEC permits to cultivate other species of shellfish , and other grants that have been used for such activity during the last 10 years, will be allowed to continue with these activities. All other grant owners seeking to enter the program will be permitted to enter the program on a limited basis as described in Response SM-5 above. Therefore, no significant adverse environmental or socio-economic impacts associated with these grants are expected.

Comment SM-45
The controlling laws for the granting of underwater lands for oyster culture in Peconic and Gardiners Bays stipulate that the underwater lands may revert to the state when they fail to be used for oyster culture. Once the lands revert to the state they are supposed to be ceded back to the County for leasing. Therefore, this would imply that the legislative intent of the lease law and all previous law dealing with issuance of oyster grants would require any leases issued on fallow private oyster grants to be consistent with the scale and criteria for new leases in the PBS. These grant lands represent large tracts of underwater lands that have been utilized by the people of the state as "public lands" for a very long time. They should have reverted and therefore one can make a strong argument that these lands must conform to the same criteria as any other lease issued in this program. (DEC)

Response SM-45
Based on input received from the ALPAC committee, CEQ and the public, Section 2.6 of the DGEIS has been modified to allow an oyster grant holder to apply for a lease on his/her grant, or a portion of which, if the owner can document a prior historical or current use of the grant for shellfish aquaculture. Grants with title conflicts will not be eligible for a lease until the conflict is resolved by the grant holder. If a grant has been fallow (i.e., if no shellfish aquaculture activities have been conducted for the past 10 years), it can enter the Lease Program in a limited phased process (i.e., the grant holder may initially apply for a 5 to 10-acre lease). Leases on fallow grants shall not exceed two 10-acre leases for the first five years of the Lease Program, at which time a review of the Lease Program will determine if the lease on the former fallow grant may be expanded. Leases on fallow grants will be subject to the full application process, including public review.

2.11 Shellfish Sanitation

Comment SS-1
The acronym that is used for U.S. FDA in the DGEIS is USDA? Perhaps they should change that to USFDA or just FDA. Most people use the USDA acronym in reference to the U.S. Department of Agriculture, not USFDA.

Response SS-1
It is hereby corrected that the acronym for the U.S. Food and Drug Administration stated in the DGEIS is USFDA.

Comment SS-2
The DGEIS lists sections of the NYS ECL that govern aquaculture. ECL §11-0103(9) was not included which provides definition of shellfish. (DEC)

Response SS-2
Based on input received from Comment SS-2, part of Section 2.7.2 of the DGEIS (pg. 64) is here by modified to include in this FGEIS: "Article 11, ECL §11-0103(9) the definition of shellfish means oysters, scallops, and all kinds of clams and mussels.

Comment SS-3
Erroneous reference which states that ECL §13-0307 requires DEC to publish annual "reports" on the condition of shellfish lands. The ECL requires the DEC to publish "notices" on the condition of shellfish lands. It is correct ("notices") on page 75. (DEC)

Response SS-3
Based on input received from Comment SS-3, part of Section 2.7.2 of the DGEIS (pg. 67) hereby modified to change the word "reports" to "notices" in the definition on ECL §13-0307 in this FGEIS.

Comment SS-4
On page 132 of the DGEIS (last sentence in the paragraph): "An area is immediately closed if a single fecal coliform sample is found to exceed 70 mpn/100ml." This is not correct. It should be deleted. (DEC)

Response SS-4
Based on input received from Comment SS-4, part of Section 4.1.1.2 of the DGEIS (pg. 132) is here by modified to delete the sentence "An area is immediately closed if a single fecal coliform sample is found to exceed 70 mpn/100ml" in this FGEIS.

Comment SS-5
Shellfish water quality closures can be classified in two (not three) sub-categories: year-round closures and seasonal closures. (DEC)

Response SS-5
Based on input received from Comment SS-5, part of Section 4.1.1.2 of the DGEIS is here by modified to change the sentence to read: "Shellfish closures due to impaired water quality are generally classified into two sub-categories: year-round closures and seasonal closures" in this FGEIS.

Comment SS-6
The DGEIS tries to make conditionals seem like a separate sub-category. No area is designated as "conditionally uncertified" in Part 41. (DEC)

Response SS-6
Based on input received from Comment SS-6, part of Section 4.1.1.2 of the DGEIS is here by modified to include the following sentences to read: "In addition to the two sub-categories, Conditional Harvesting area programs are developed on an annual basis through the cooperative efforts of local Towns and NYSDEC-Bureau of Marine Resources Shellfisheries Section. Once those program areas are established, certain uncertified areas are designated as "conditionally certified: as provided for in Chapter 1 Section 41.1 of the Sanitary Condition for Shellfish Lands" into this FGEIS document.

Comment SS-7
"Conditionally and seasonally closed areas may be opened by the NYSDEC when conditions warrant." That statement is not correct. (DEC)

Response SS-7
Based on input received from Comment SS-7, part of Section 4.1.1.2 of the DGEIS is here by modified in this FGEIS to delete the following sentences: "Conditionally and seasonally closed areas may be opened by the NYSDEC when conditions warrant. Seasonal openings are generally from mid-December through mid-April, when nonpoint source pollution is reduced. Conditional areas may be suspended, revised, or canceled at any time if any conditions are found to exist which may be a threat to public health" and replaced with "Seasonally closed areas are opened and closed on dates specified in Chapter 1 Section 41 of the Sanitary Condition for Shellfish Lands and Conditionally

certified areas are opened and closed based on conditions that have been determined through an annual evaluation of the area(s)".

Comment SS-8
On page 133 of the DGEIS portions of Shelter Island Sound are designated as uncertified due to impaired water quality when in fact the closure is an "administrative closure" or "closed safety zone". (DEC)

Response SS-8
Based on input received from Comment SS-8, part of Section 4.1.1.2 (pg. 133) of the DGEIS is here by modified in this FGEIS by deleting the following: "Shelter Island Sound between Greenport and Dearing Harbor."

Comment SS-9
The second paragraph on page 134 of the DGEIS makes it seem like the "conditional" program associated with the operation of the Shelter Island Heights STP is listed in Part 41. It is not. (DEC)

Response SS-9
Please see Response SS-8.

Comment SS-10
The description on page 136 of the DGEIS describing the location of the outfall of the Sag Harbor STP is not accurate. (DEC)

Response SS-10
Although this comment is, as stated by the NYSDEC, a matter of semantics, part of Section 4.1.1.2 (pg. 136) of the DGEIS is here by modified in this FGEIS by deleting the following: "The Sag Harbor STP outfall is located immediately outside of the mouth of Sag Harbor" and the adding the following: "The Sag Harbor STP outfall is located east of the North Haven bridge and west of the large rock jetty (breakwater) that protects Sag Harbor."

2.12 Finfish Issues

Comment FI-1
The DGEIS presents a list of species NYSDEC has found in Peconic Bays, but fails to indicate that the majority of the fish found in the survey were vulnerable, highly sensitive life stages of these species, including post-larval, young of the year and small juvenile finfish. The DGEIS did not address the impacts of the leasing program on each of these species' egg, larval and juvenile life stages and their habitats, particularly the ecological impacts associated with on/off bottom culture and harvest methods. (DEC)

Response FI-1
Based on input received from Comment FI-1, the DGEIS is here by modified in this FGEIS to include Appendix F, an Essential Fish Habitat Designation analysis to address the impacts on finfish by the proposed program.

Comment FI-2
The DGEIS fails to evaluate the impact of the aquaculture activities on benthic, finfish and aquatic resources with the full grow-out of the proposed action. (DEC)

Response FI-2
As stated in several sections of the DGEIS, the total acreage ceded to the County by the State is approximately 110,000 acres. Of that acreage a small portion consisting of some existing private oyster grants and TMAUAs would be available for shellfish cultivation under this program. If all of those grants and TMAUAs were converted, and leases were issued to the maximum amount of acreage available to them, the total acreage would add up to no more than approximately 3,153.5 acres, or 2.87% of the 110,000 acres. (See Appendix H.) Therefore, it is highly unlikely that the proposed action would have any significantly adverse impact on benthic, finfish and aquatic resources if the program would reach a full grow-out. The County is in the process of preparing an estimate of the maximum area that could be potentially leased under the program after 10 years of implementation. This estimate will be presented in the final version of this FGEIS.

Comment FI-3
The DGEIS fails to address the impacts of dredging on non-targeted benthic organisms, predator/prey interactions, benthic food web effects, changes in biodiversity, and declines in infaunal abundance. (DEC)

Response FI-3
An in-depth review of potential impacts from hydraulic dredging for shellfish aquaculture harvest purposes is included in Appendix E.

Comment FI-4
The DGIES fails to address the effects of repeated disturbance of on-bottom shellfish aquaculture harvesting techniques such as dredging on the recovery of benthic communities and the potential impacts of habitat homogenization. (DEC)

Response FI-4
Shellfish farmers typically leave their crop untouched for several years prior to harvesting; which is much less than the degree of impacts associated with wild shellfish harvest. Wild shellfish harvesting entails the repeated dredging over a broader area for a prolonged period of time. When compared with wild shellfish harvest operations, dredging cultured shellfish has a much less significant impact on the surrounding aquatic ecosystem. Where as wild stock dredging seeks to find concentrations of shellfish over a broader area, aquaculturists only dredge the specific area where they have planted shellfish, allowing for a more focused operation.

Comment FI-5
DGEIS needs to consider implementing monitoring requirements under the program to evaluate the impacts to non-target species and changes in sediments deposition from cage use. (DEC)

Response FI-5
See Response DGEIS-21 of this FGEIS.

Comment FI-6
Under the heading US Fish and Wildlife Service, the DGEIS states that the USFWS has regulatory control over any federally endangered wildlife species, which may be affected by shellfish activities. In the case of marine mammals and sea turtles found in the water, NOAA has regulatory control through NMFS.

Response FI-6
See Response DGEIS-22 of this document.

Comment FI-7
As proposed in the DGEIS, the aquaculture leasing program does not adequately address management for the potential take of protected species.

Response FI-7
No data obtained during the information gathering portion of this program revealed any significant impacts to protected species as a resulted of aquaculture activities. However, as part of program development, the County will continue to research this matter through additional literature searches and consultations with experts in the field of shellfish research.

Comment FI-8
The DGEIS does not address the threat of sea turtle takes posed by mechanical harvesting.

Response FI-8
As stated by Robert B. Rheault, Ph. D. of Moonstone Oysters respond to Comment FI-8 as follows: "In the course of my literature review I encountered no reference to impacts of shellfish aquaculture (or inshore shellfish dredging activities) on turtles. In the course of 30 years of shellfish aquaculture, I have never seen nor heard of anyone interacting with any species of turtle."

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Appendix A
Updated Version of
Section 2.6 - Components of Proposed Lease Program

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Components of Proposed Lease Program

The proposed Lease Program involves the conversion of NYSDEC Temporary Marine Assignments to leases, allows private oyster grant holders to participate in the Lease Program, and also provides for future growth of the industry by permitting additional use of underwater lands for shellfish aquaculture within defined limits. This alternative would make available approximately an additional 300 acres of bottom land for new entities at the end of the first five year period, and another approximately 300 acres at the end of 10 years. The program components outlined below make reference to the *Suffolk County Aquaculture Lease Program Shellfish Cultivation Zone* Map. The Shellfish Cultivation Zone indicates areas suitable for lease placement based on environmental, socio-economic and historical considerations. The zone includes areas where environmental impacts and conflicts with existing users of the estuary are minimized, and areas with a prior history of aquaculture activities.

General Components

1. **Suffolk County as Program Lead Agency --** Suffolk County will be the lead agency for the Suffolk County Shellfish Aquaculture Lease Program for underwater lands ceded from New York State by the 2004 Leasing Law. Participation in the County Lease Program does not obviate the need to obtain any permits required for aquaculture activities by regulatory agencies.
2. **Ten Year Lease Terms --** The term of the initial lease will be 10 years, with 10 year renewable options.
3. **Sizes of Leases --** Leases on underwater lands not currently used for aquaculture will be 5 or 10 acres (these limits do not apply to active private oyster grants or temporary assignments).
4. **Shape of Lease Areas --** Leases on underwater lands not currently used for shellfish aquaculture will be square in shape (this criterion does not apply to active private oyster grants or assignments).
5. **Five Year Program Reviews --**The program will be subject to review during the second 5 year period after program implementation begins, to establish program components after 10 years. During the 5 year review process, the Shellfish

Cultivation Zone map will be reviewed and updated as needed. The review will be based on environmental assessment, results of the program to date, need/demand for additional lease space, Town, public and industry input, and other factors. Data on environmental conditions in the bay, including that from the ongoing County water quality monitoring program, will be utilized in the assessment.

6. **Environmental Review for Significant Program Changes --** If significant changes to the program are desired after 10 years, an environmental review will be performed to assess potential impacts of the proposed changes. Significant changes would include an expansion of total lease area, number of leases, or location of leases. Any significant program changes and environmental review will comply with State Environmental Quality Review Act (SEQRA) requirements.
7. **Relocation of Leases --** In the event that the program review requires a change in the Shellfish Cultivation Zone where new leases are permissible, the lease holder may be required to relocate their lease area. The relocation would be required by the end of the lease period or within 5 years, whichever is more. The lease holder would be given the option to move to an allowable area in the Shellfish Cultivation Zone as close to the original lease location as practical. The criteria for changing the boundary of the Shellfish Cultivation Zone will include any changes in water quality classifications as deemed by NYSDEC, or if any unforeseen navigational or recreational/commercial conflicts arise.
8. **Annual Reporting of Activities --** All lease holders must provide annual reports as to the type of shellfish aquaculture undertaken on the subject lease. The reports must include documentation as to the types and quantities of shellfish being cultivated and harvested on the subject lease and include the time periods of cultivation and harvesting, and other information deemed appropriate by the County.
9. **Permits from Other Regulatory Agencies --** The County Lease Program will provide access to underwater lands only. Type of cultivation in terms of species and method of harvest will not be specified under the lease, but will be subject to

NYSDEC permit requirements. Lease applicants must obtain all necessary permits from NYSDEC and other regulatory agencies.

10. **Marking and Surveying of Lease --** Boundaries of all leases must be properly marked according to County specifications. Lease sites must be surveyed by a licensed land surveyor prior to execution of the lease. The lessee is responsible for obtaining all necessary permits and licenses under federal and state law, including any permits for buoys and private aid markers required by the US Coast Guard and/or US Army Corps of Engineers.
11. **Annual Lease Rent --** Lease applicants must pay an annual lease rent, which will be determined by the County, based on the number of acres leased.
12. **Aquaculture Equipment Removal --** Lessees will be responsible for removal of all shellfish aquaculture equipment from the lease area, upon termination of the lease. All equipment must be labeled with the lessee's name and lease identification number.
13. **Public Notice --** Upon acceptance of the completed lease application by the County, the County will issue a public notice regarding the proposed lease site and the two alternative lease sites, in accordance with ECL § 13-0302. In addition, the County will issue a public notice to each of the five East End Town clerks. The public notice will have a 60-day written comment period during which the public, regulatory agencies and municipalities may submit written comments on the location of the lease and the alternative lease sites. The County will take into consideration all comments received during the public comment period when making its decision to approve or deny a lease application.
14. **Documentation of Natural Non-Productivity of Proposed Lease --** If, during the application public comment period, a comment is received objecting to the lease application, the County will make a determination as to whether the objection is credible. For an objection to be considered credible, the objector must provide to the County proper notarized documentation. If the objection is credible, the lease applicant will have the option to select one of his/her alternative sites, or if involving an alleged commercial shellfish or finfish fishery, will cause a benthic survey to be conducted at his/her own expense.

15. **Minimum Levels of Performance for Lease Holders --** Lease holders must meet minimum levels of performance to confirm that the lease is actually in use for aquaculture. Minimum levels of performance will include: a good faith effort to prepare an aquaculture site; securing financing, equipment and/or seed; the planting, cultivation, or harvest of product; or evidence of some sort of active aquaculture activity on a shellfish aquaculture lease. Lessees will be required to commence shellfish cultivation activities within one year of the issuance of the lease. Failure to meet minimum performance levels and timeframe can result in termination of the lease. Provision will be made for hardship allowance, based on information (i.e., medical records, financial statements, and water quality data) to be provided to and considered by the County. In evaluating performance, beds used in a rotation system of shellfish production, where some beds are actively farmed, while others are rested for various reasons, such as predator control and bottom preparation for re-seeding, all such beds shall be considered as actively farmed.
16. **Termination of a Lease –** The County may terminate a lease if certain conditions of the lease are not met. The criteria for terminating a lease will include, but are not limited to, non-payment of lease fees, violation of the NYS Environmental Conservation Law as it pertains for marine-related activities, significant adverse impacts to marine resources, or if lease performance standards are not met.
17. **Limit of Lease Ownership and Sub-Leasing --** Ownership of leases will be limited to a maximum of two leases per individual and/or corporate entity. Sub-leasing of lease areas will be permitted. The lease holder must provide assurance that the sub-lease meets all stipulations required by the County in the primary lease. Ownership of sub-leases will also be limited to a maximum of two sub-leases per individual and/or corporate entity.
18. **Transfer of Leases --** Leases may be transferable to another individual/entity for the remainder portion of the lease term, in accordance with terms established by the County.
19. **Seed Stock Requirements –** All participants in the Lease Program will be required to comply with all components of 6 NYCRR Part 48: Marine Hatcheries,

On-Bottom and Off-Bottom Culture of Marine Plant and Animal Life, including the policy being adopted by NYSDEC (anticipated to be adopted in 2008) on Acceptable Origin of Shell and Shellstock for Introduction in New York.

Specific Requirements– Existing Temporary Marine Assignments

20. **Conversion of Temporary Assignments --** Existing temporary assignments in the Shellfish Cultivation Zone must be converted into County leases once the County Lease Program is implemented, in accordance with the provisions given below. Temporary assignments that are being converted into a lease without any change in their operations or size will be retained as a circular shaped 5-acre lease. Temporary assignments that wish to expand can convert to a 10-acre lease (i.e., one 10-acre lease square, or two five-acre square leases), as long as the expansion occurs in the Shellfish Cultivation Zone.
21. **Phasing of Converted Temporary Assignments into Lease Program --** Temporary assignments that wish to be incorporated into the County Lease Program will have up to one year to comply with the lease requirements. This phasing will allow for the time required to comply with new lease requirements (e.g., completing lease requirements if converting to a 10-acre lease).
22. **Productivity Documentation for Conversion of Existing Temporary Assignments --** The need for a benthic survey will not apply to existing temporary assignments holders who chose not to change or expand their operations under the County Lease Program, but would apply to those expanding their operation onto previously unused underwater land if there is a credible comment indicating significant natural shellfish stocks during the public comment period (as discussed in item 14 above).
23. **Temporary Assignments within 1,000 ft of Shoreline –** Holders of temporary assignments that are located within 1,000 feet of the shoreline will be given the opportunity to obtain a lease beyond the 1,000 foot line at a location in the Shellfish Cultivation Zone as close to their original position as practical. The lease site will be 5 or 10 acres. Holders of temporary assignments lying within 1,000 feet of shore that do not choose to locate within the Shellfish Cultivation

Zone will not be subject to the County Lease Program and may be subject to termination by NYSDEC.

24. **Temporary Assignments Partially within 1,000 ft of Shoreline –** Holders of temporary assignments that are partially located within 1,000 feet from shore will be permitted to adjust their areas so that they lie beyond 1,000 feet.
25. **Pending Applications for Temporary Assignments --** Applicants with pending applications to obtain a temporary assignment from the NYSDEC will be given the opportunity to obtain a lease in accordance with the provisions established above. The applications must have been made by December 31, 2007. Applications received by NYSDEC subsequent to December 31, 2007 will be required to apply for a lease in accordance with the County's shellfish aquaculture lease application process.

Site Specific Requirements – Private Oyster Grants

26. **Continuation of Grant Activities --** Grant owners can cultivate oysters on their grants without a lease from the County. Grants and portions thereof that are located more than 1,000 feet from shore can be considered for inclusion in the County Lease Program (grants that are located within 1,000 feet from shore are not within the jurisdiction of the County Lease Program), should there be the desire to cultivate species other than oysters. Shellfish cultivation activities on these grants are regulated by the NYSDEC.
27. **Lease Establishment on Active Grants –** Grant owners actively cultivating shellfish must obtain a lease from the County if they wish to cultivate species other than oysters on their grant. Grants are considered active if the owners can document a prior historical or current use of the grant for shellfish aquaculture. Adequate documentation of former aquaculture use of the grant within the 10-year period between January 1, 1999 and December 31, 2008 may include: receipt for purchase of seed stock; proof of revenue from shellfish sales from the subject parcel; or other documentation confirming that viable aquaculture activity has taken place on the grant, as well as copies of relevant NYSDEC permits. Leases on active grants do not have specified acreage limits. Owners of grants can apply

under the County Lease Program to overlay a lease on the entire grant area, or a portion thereof, depending upon the extent of historical, active use of the grant for shellfish culture.

It is noted that shellfish farmers growing shellfish species other than oysters on their grants may have instituted a bed rotation system. Under such a system, some beds may be actively farmed, while others are rested for various reasons, such as predator control and bottom preparation for re-seeding. In such cases, all of the beds will be considered active, since they are part of the shellfish production system for the respective grants involved.

28. **Phased Expansion of Leases on Fallow Grants**

    If a grant has not been used for culture of species other than oysters during the 10-year period between January 1, 1999 and December 31, 2008, it is considered a fallow grant, and can enter the Lease Program in a limited phased process. Conditions pertaining to establishment of leases on underwater lands not formerly used for shellfish aquaculture, as outlined above, would apply to placement of leases on fallow grants. A fallow grant holder may apply for up to two 10-acre leases on his/her site during the first five years of the Lease Program and will be subject to the full application process including public review and comment. (This limitation applies to the number and size of fallow grant parcels as described in the *Underwater Land Title Search Data Report* (2008) prepared by the Suffolk County Dept. of Planning. As such, a grant owner will not be allowed to exceed the two 10-acre leases on his/her grant by subdividing and selling smaller grant parcels to others.) This will provide for a phased approach for the establishment and expansion of leases on these fallow grants. The program will be evaluated after five years and at that time, the determination will be made to possibly expand leases on these formerly fallow grants.

<u>Proposed One Percent Increase</u>

29. **One Percent per Year Increase in Acreage for Aquaculture --** The Lease Program will provide for a one percent increase in the amount of underwater land available for aquaculture each year for the first five year planning period. The

one percent increase will be based on the existing total acreage of temporary assignments as of December 31, 2007, plus the total acreage of existing private oyster grants within the study area (Peconic and Gardiners Bay, extending east to the regulatory limit). The allowable one percent per year will not include leases placed on the existing oyster grants, and will not include the expansion of existing temporary assignments converted to leases as discussed herein.

30. **Carry-over of Yearly Allocation --** If the one percent increase is not used for a particular year, the unused amount will be carried over to future years within the five year period. The cap on total lease area over the five year period will not exceed five percent.
31. **Carry-over of 5 Year Allocation --** If the five percent cap is not used up during the first five year period, the remainder can be carried over to the second five year period.
32. **Cap on New Leases After 10 Years –** It is anticipated that the second five year period will have the same limitations and conditions as those set for the first five year period. The program will include a cap on new leases after 10 years at which time an additional environmental review may be required to determine impacts of increased growth beyond this time.

Non-commercial Shellfish Cultivation Leases

33. **Experimental/Educational Leases --** The program will have a provision for issuing experimental/educational leases. These leases would be limited in scope and duration, but must be located in the Shellfish Cultivation Zone, as mapped. These leases would not be subject to all of the restrictions outlined above, and would be reviewed by the County on a case-by-case basis. The acreage of these leases would not be included in the one percent increase annual acreage cap limit on leases (item 29).
34. **Leases for Shellfish Resource Restoration --** Leases can be issued for shellfish resource restoration. These leases must be located in the Shellfish Cultivation Zone and are also otherwise subject to the requirements outlined above. Sub-leasing of these leases would not be permissible. The acreage of these leases

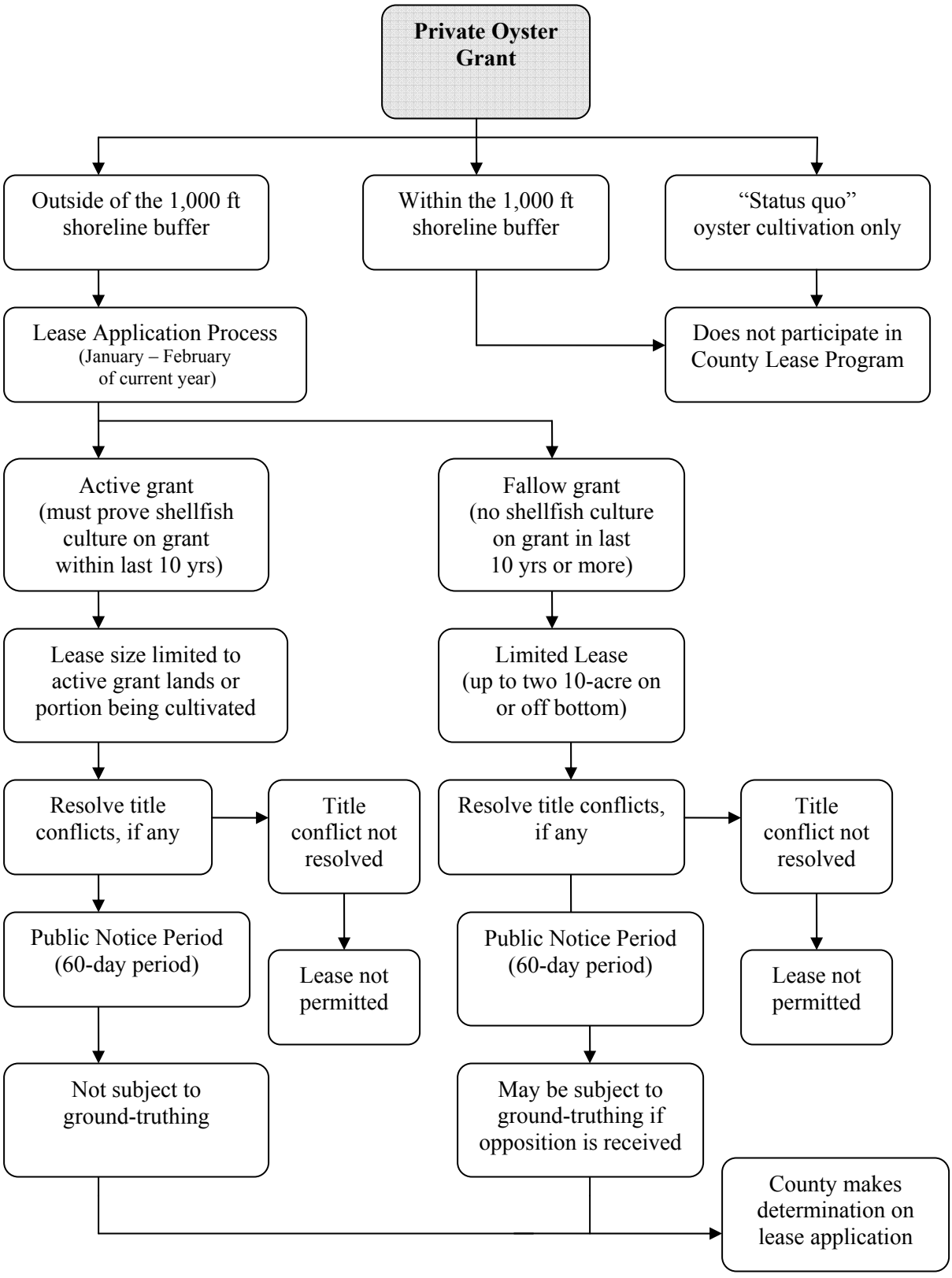
would not be included in the one percent increase annual acreage cap limit on leases (item 29).

Options for Future Consideration

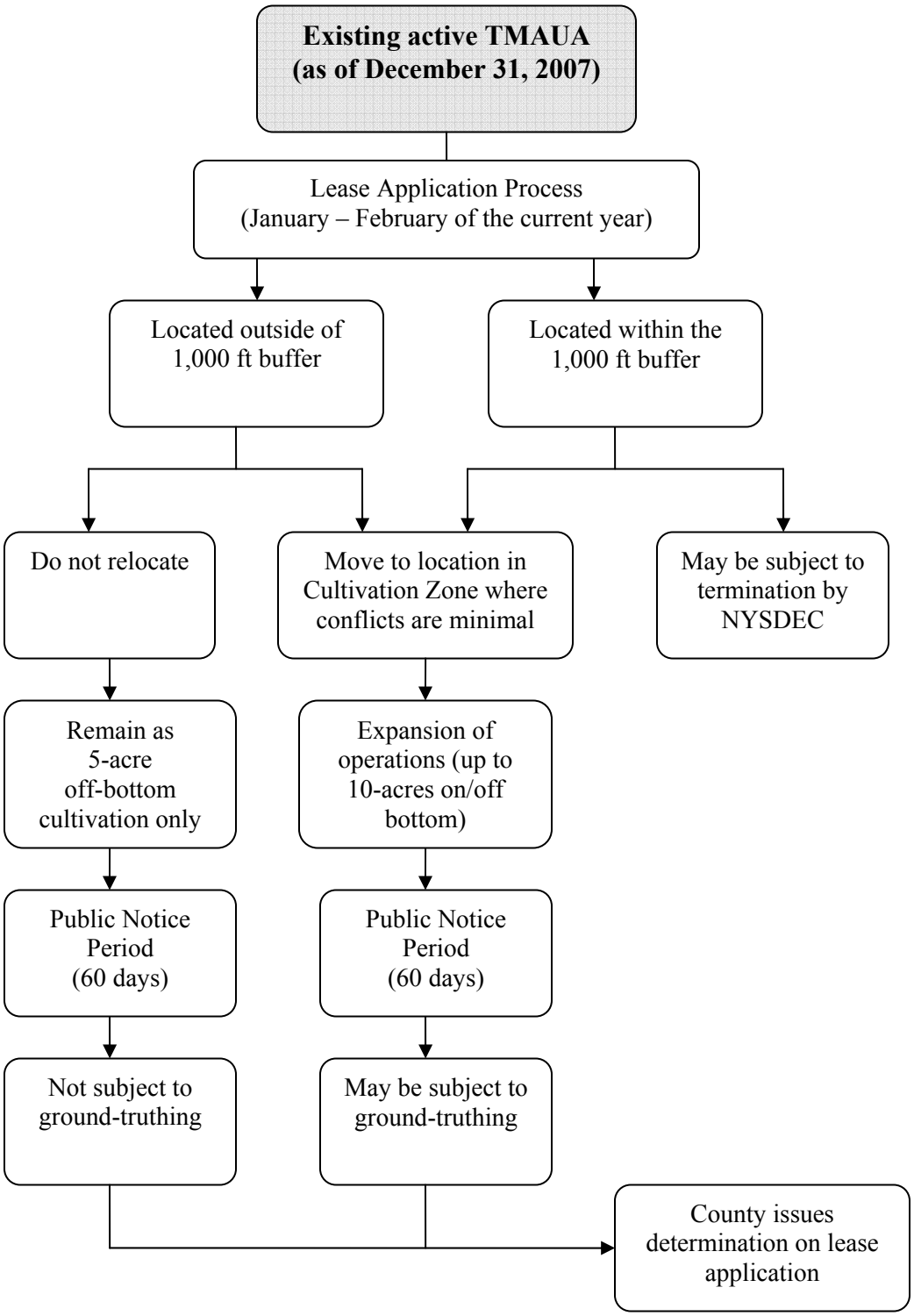
35. **Potential for Issuing Leases Larger than 10 Acres –** The County Lease Program will consider issuing leases larger than 10 acres, but not exceeding 50 acres, after the completion of the first five year planning period, based on review of environmental and economic conditions.

As part of the development of the Shellfish Aquaculture Lease Program, the County will prepare an Administrative Guidance document that defines in detail the administrative procedures, regulations and criteria for all aspects of the leasing process. The various criteria, standards and requirements referenced in the Program Components will be defined in that document. Administrative needs required by the County to implement the program will also be identified. The level of detail to be included in the document will be necessary for implementation of the program, but is not necessary for the assessment prepared for this Generic EIS.

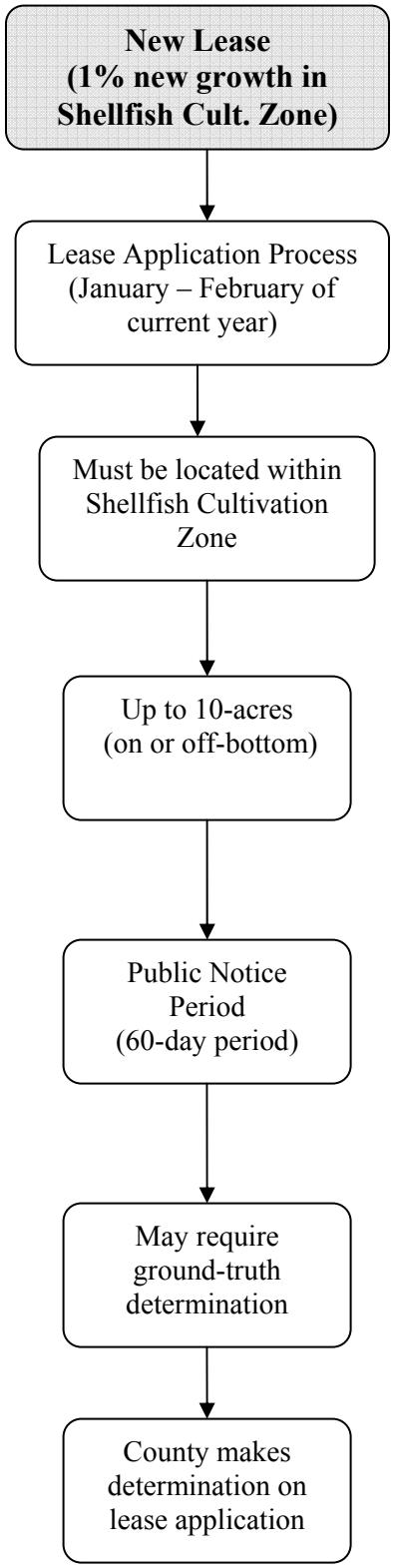
Flow Chart for Inclusion of Private Oyster Grants into Suffolk County Aquaculture Lease Program



Flow Chart for Conversion of NYSDEC Temporary Marine Area Use Assignments (TMAUAs) into Suffolk County Aquaculture Lease Program



Flow Chart for New Leases in the Suffolk County Aquaculture Lease Program



Appendix B

Suffolk County Council for Environmental Quality
Meeting Transcript

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Department of Planning

Council on Environmental Quality

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PUBLIC MEETING

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March 19, 2008
9:30 a.m.

William Rodgers Complex
Veterans Memorial Highway
Hauppauge, New York

ACCURATE COURT REPORTING SERVICES, INC.
6 FRANCES LANE
PORT JEFFERSON, NEW YORK 11777
631-331-3753

A P P E A R A N C E S:

R. LAWRENCE SWANSON, Chairperson
MICHAEL KAUFMAN, Vice Chairperson
HON. JAY H. SCHNEIDERMAN, CEQ
EVA GROWNEY, CEQ
GLORIA G. RUSSO, CEQ.
JAMES BAGG, CEQ
ZEB YOUNGMAN, CAC
JOY SQUIRES, CAC
RICHARD MARTIN, Historic Society

A L S O P R E S E N T:

BOARD OF ELECTIONS WAREHOUSE ADDITION:
IVAN YOUNG
JAMES INGENITO
WAYNE ROGERS

SUFFOLK COUNTY STORMWATER MANAGEMENT PROGRAM:
EMERSON HASBROUCK
LORNE BROUSSER
ANGEL DYBAS
ERIK BERGEY
JEFF DAWSON
MATT SCLAFANI
MARK CAPPELLINO

DGEIS FOR SHELLFISH AQUACULTURE LEASE PROGRAM:
DeWITT S. DAVIES
GREGORY GREENE
MICHAEL MULE
KEITH BREWER

LAURETTA FISCHER

Society for Preservation of Long Island Antiquities in Cold Spring Harbor. And that, again, will be at 9:30 at their offices on Main Street.

CHAIRMAN SWANSON: So Mary Ann will be representing us?

MR. MARTIN: Yes.

CHAIRMAN SWANSON: Very good. Thank you.

Just a reminder that this is a public meeting, and if anybody has comments they would like to make on a particular topic, please feel free to let us know, and we will probably take them at the time a particular issue is being discussed.

So, project reviews. The ~~EGIS~~ DGEIS for shellfish aquaculture lease program at Peconic Bay is next on the agenda. If you would like to, come up and make a presentation.

And I'd like to just remind the CEQ that our role here today is to determine whether or not the ~~DGIS~~ DGEIS is in suitable shape and complete enough to be released to the

public. Also, there is, I believe, on April 17th -- is that correct, Jim?

MR. BAGG: Yes, I believe that there is a public hearing tentatively scheduled for April 17th.

CHAIRMAN SWANSON: The April 17th public hearing will be in Riverhead, and I believe it's at 7:00. I'll be chairing the meeting and I encourage other members of CEQ to come. It's always good if more than one of us hears what the public has to say concerning these particular large projects. I think, Mike, you're planning on coming; is that correct?

MR. KAUFMAN: Yes, Mr. Chairman.

CHAIRMAN SWANSON: If anybody else has time, please come and join us.

MR. KAUFMAN: What time of day?

CHAIRMAN SWANSON: I think I just said 7:00.

Okay. DeWitt, if you'd like to introduce your panel.

MR. ~~DAVIS~~ DAVIES: Yes. Thank you, Larry, and I'd like to thank the members of the

Council for the chance to come before you today so we can provide some input, with respect to the draft ~~American~~ Generic Environmental impact statement that you have before you on the Suffolk County shellfish Aquaculture lease program in Peconic Bay and Gardner's Bay.

By way of introduction, on my far right is Mike Mule', senior planner, who has worked on this project from the very beginning a few years ago. Keith Brewer is senior scientist at Cashen Associates. ~~Cashen~~ Cashin is the consultant that is working on the impact statement and program document. To my right is Greg Greene, who is the principal at ~~Cashen~~ Cashin and is in charge of their work for this project.

Larry has already mentioned some of the key dates with respect to the future of this particular project, and that is the scheduling tentatively, pending your deliberation today, of a public hearing on that draft document.

Let's go back a little way here so

you can get some historical perspective with respect to this particular program. Chapter 425 of the laws of New York State 2004 ceded to Suffolk County approximately 110,000 acres of underwater land in Peconic and Gardner's Bay to Suffolk County for the purpose of establishing a shellfish aquaculture lease program in this area. This is an important piece of legislation and has important ramifications for Suffolk County.

The particular legislation that I just referenced contains a sunset clause, December 31st, 2010, which was imposed by various interests in the State of New York on the County, in that, if the County does not implement -- first adopt and then implement this program, it will lose the authority to manage shellfish aquaculture in this area and forfeit the title that it has to the underwater land that I mentioned before; 110,000 acres or so.

CHAIRMAN SWANSON: Can I interrupt and ask a question?

MR. ~~DAVIS:~~ DAVIES: Sure.

CHAIRMAN SWANSON: When you say "ceded," the State is not actually giving ownership, they're only giving the right to conduct aquaculture in those acres; is that correct?

MR. ~~DAVIS:~~ DAVIES: They've ceded the right for shellfish cultivation purposes to Suffolk County and they're giving the County, given certain conditions, rights to lease those lands for that activity. The underlying title is retained by the State of New York, but if you look at the bundle of rights that are associated with ownership of underwater land, the right to cultivate shellfish on the bottom and in the water column is probably the principal right associated with that ownership.

So that's a little bit -- in terms of the historical perspective, in terms of where we provide this particular project. The project was funded by the County. Capital Project Planning Department. We've been underway now for approximately 13 or

14 months in an intensive way. We have an aquaculture lease program advisory committee, 17 members, of which Legislator Schneiderman is a member. He's been attending these meetings on a regular basis and is familiar with the operation of that particular committee.

Earlier in the year, we came before the CEQ to ask their review of a draft scoping document. The process of scoping has been completed. We had a public hearing on the draft scoping document, and on August 23rd the Legislature approved the final scoping document for this project and essentially authorized us to proceed with active preparation of the ~~DGEIS~~ DGEIS report.

You might ask, why are we doing this? What are the goals of this particular program? And again, stepping back a little bit here, but one of the initial concerns people had was sustaining and maintaining the marine environment in the area in which we are dealing with. Again, this is Gardner's and Peconic Bay in Suffolk County.

Whatever we do, we want to maintain and sustain that environment in whatever we do with respect to the activities. We want to provide the ability for people to get access to underwater lands for raising shellfish in a manner that is socially equitable with all the other uses of this particular marine space. We want to provide an opportunity for controlled and predictable growth of shellfish farming at acceptable levels, both over the near-term and the long-term.

What are the outcomes that we expect from this program? Should it be adopted by Suffolk County from a policy perspective and then implemented? Well, we believe that if those two things occur, adoption and law and implementation, that private investment in the shellfish aquaculture business will be encouraged. We will see shellfish farms established at secure locations which don't pose conflicts with other bay users. We believe that the water-dependent economy of the County will be expanded and green-related job opportunities will be

created, also, and these kinds of opportunities are in tune with the quality of life and the sense of place that is the East End of Suffolk County.

We believe that these shellfish farms will increase shellfish populations and densities in various areas in the system, and that alone will have very important ramifications for the health of the Peconic estuary. Because we all know shellfish are filter feeders. They have a positive influence on water quality by removing nutrients, by removing humidity, by improving light penetration and, also, they have the ability to augment the spawning potential of the natural populations of shellfish that are out there.

If this program is adopted and Suffolk County, again, assumes an active role in management of the system -- something which it had historically, over a hundred years ago, but that involvement has waned over the years -- shellfish cultivation leasing will become

institutionalized as a government responsibility and function. This program will also be implemented in a way that assures input from all of the East End interests and local governments through the application process that we envision for obtaining a lease.

Where are we now in this particular project? Cashin ~~Cashen~~ Associates has prepared this draft impact statement. A preliminary draft of the impact statement was circulated to the Agriculture Lease Program Advisory Committee for review and comment, and we've incorporated those comments. This draft has not been distributed to anyone except you folks. In the letter from Director Tom Isles to the chairman, who the Department requests a review of the document and, hopefully, you'll be able to concur with the conclusion that this document is complete with respect to the requirements of SEQRA for distribution.

I'd like to make the comment that it is a generic impact statement. The impact

statement focuses on the issue of providing access to underwater lands for private commercial use, but it could also involve municipality use with respect to obtaining leases for habitat restoration purposes, also. So it's not just a private lease program. The leases, as we envision it, could be issued to local government for their purposes and also to private entities that may want to conduct research, for example.

So we are at that juncture now. The Department of Planning would like to proceed with this project and be able to conduct a full public review of the document. That's why we have enclosed in the letter, that I believe you have before you, our plan. The plan is tentative at this point. We'd like to schedule a public hearing on this document, Riverhead Town Hall on April 17th. Our ALPAC meetings will continue program development as we go through the public review process. We will then have the opportunity to hear from people, in a very

specific and defined way, what issues bother them, what issues they support, what issues they don't support, in terms of how they've been resolved and discussed in the impact statement. This is the way we can get that input if we go out and start this formal process. If we continue on schedule -- and we are on schedule at the moment with respect to this project -- the next major milestone would be for preparation of the administrative component document, which will describe how leases would be issued in terms of their format, what standards and criteria would be used by the County in reviewing and implementing programs in a specific way. That document is under preparation and a preliminary version of some of that material will be given at the next ALPAC meeting in April.

But assuming that we can, again, proceed with going through the impact statement, finalizing, etcetera, we hope to have the whole program wrapped up in a final form by the end of the summer, at which time

it would then be submitted to the County Executive, etcetera, for a policy review and subsequent action. If it is adopted into law, etcetera, we expect that the County could begin this process of issuing leases in 2009 and 2010. As I said before, we have some significant ramifications if that deadline of December 31st, 2010 is not met by the County.

So, given that as an introduction as to where we are at the present time, ~~Cashen~~ Cashin Associates' Greg Greene and Keith Brewer are here today to answer specific questions that you might have on this document. We will certainly take note of it to the best of our ability today. And I'd also like to point out again the fact that this is a generic impact statement. It focuses on access issues, a provision of access to underwater lands and the conduct of this activity. This is not a regulatory program with respect to what Suffolk County's authorities are under the State law. The New York State DEC retains its regulatory function and

authority under New York State Environmental Conservation law, and they are, in a sense, the regulatory arm with respect to which these proposed activities on leases will be judged, because the State of New York has to issue permits for those activities and all ramifications associated with those operations.

The County is responsible, under the program, for providing the mechanism to obtain access. I think that's an important distinction. All permits that the New York State DEC would issue for a specific culture operation would be subject to a public review process that they conduct. So I just wanted to make that point clear.

So I can turn it over to you, Greg. You may want to say a few words about the document itself.

Larry?

CHAIRMAN SWANSON: I'd like to ask you a question just for clarification. December 31st, 2010 some activity must be taking place. What exactly is that

activity, the completion of the EIS process or actually the first leases? Just so that we're clear as to what we're shooting for.

MR. ~~DAVIS~~ DAVIES: The law is quite specific with respect to what would have to happen. The County would have to adopt, by local law, a shellfish cultivations zone map and the program itself with respect to how this program would be implemented. So the authority would have to be in place before the County could actually lease. But there's also the provision that if no leases are executed by the County -- the operative word there is "executed," meaning that we've actually done it -- the County forfeits its title to the underwater lands and loses its authority to issue leases. It returns, then, to the State of New York.

I point out that, historically, Suffolk County has had an authority out in Peconic and Gardner's Bay since 1884. First to issue grants for oyster cultivation, which the County was very active in at the turn of the century, and in 1969 a new law

gave the County the right to sell leases for shellfish cultivation. However, the complexities and problems associated with that law led to over 30 years of no action by Suffolk County. That's why the law was changed in the year 2004.

So we do have a long history here, and it's been sporadic with respect to the level of involvement that the County has had with this particular resource, but the resurgence of culture technology out in Peconic and Gardner's Bays changed in the viewpoint of many of the constituencies out there with respect to how they view aquaculture and its promise, I think, with respect to the future. I think all those factors have come together here to present an opportunity that the County should see. There is no guarantee that the State of New York will ever issue a lease anywhere in the New York State marine district. It has not done so. That is one of the concerns, I think, that people express with respect to the legislation when it was under discussion

several years ago.

We never had a deadline in the previous laws. A deadline -- you can speculate as to why a deadline is in there. They wanted to essentially encourage the County to meet its responsibilities, but I sometimes think that they're interested, perhaps -- and this is a little bit of editorializing -- they did not want to see the County do this because of jurisdictional authority with respect to the State of New York.

CHAIRMAN SWANSON: Mr. Greene?

MS. RUSSO: May I, Mr. Chairman?

CHAIRMAN SWANSON: Yes.

MS. RUSSO: Good morning. I was a little unclear -- ~~DGIS~~ DGEIS. I understand -- can you give me background on why the State is doing this? Wanting this law doing this? Because when I read through it, it appears to me that there already are some oyster grants and other land grants. People are using -- already doing some of this. So what was the reasoning or the thought behind

the State to grant this lease to the County, and if there already is some aquaculture activity going on, why do we need another layer of government? Can you clarify that? I don't understand the whole real purpose.

MR. GREENE: Under the previous legislation, the County was given the authority in 1969 to lease lands for shellfish cultivation, a species other than oysters. Historically, back at the turn of the century, the County sold grants for oyster cultivation purposes, oysters only. There was grants, most of which have returned to the County for nonpayment of taxes with approximately 5800, 5900 acres of oyster grants that are held out in the Peconic/Gardner's Bay system today. In the 1980s, in an attempt to consider a leasing program, the State of New York issued a temporary marine area use assignment. The word "temporary" is key here. Circular five-acre plots on a yearly basis. Every year you have to renew. They can be terminated at any time, and approximately 30

to 32 of these assignments have been issued and are in effect today. Some come and some don't. We have about 5600 acres of oyster grants. These are private grants that have survived over the years. We have about 1200 acres that are under culture permit from the State of New York, and we have the rest, 4800, whatever it is, acres that have not been used for decades, but the underlying title is still there in private hands.

There is a need for the ability for the cultures to obtain secure access. If you're in business, it's difficult to sell your plan and get financing if you don't know you're going to be in the spot you are today at the end of the year, okay? There is some security with respect to having a lease program where you have some defined term of access. In this case, there's a ten-year period given for leases, and there's ability to maintain your activity. Some certainty helps out with respect to that.

We're looking here at the system as a

whole. We're trying to locate areas in addition to the assignments. We want to grandfather those locations if they're not within the boundary of the shoreline. There's some issues with that that are minor. But the ability to find new areas where people could come in and obtain a lease, we've done that. We have a shellfish cultivation zone defined in the report that consists of the assignment locations, the private grants and other areas defined by Cashin ~~Cashon~~ Associates after extensive input from ALPAC Committee members and the public and interviews with fishermen and interest groups out on the East End this past year, where we think that those areas will pose a minimal conflict with natural resources and other uses, so there's a place to go.

So, in essence, as far as the grant owners are concerned, we wanted to clear up this particular problem of their ability to culture species other than oysters. They can grow oysters now, but the 2004 law changed the table -- the playing table a

little bit here -- playing field, I should say, because the State granted all right and title to the County not previously issued with respect to how these lands would be used. So the State is interpreting it now that if someone wants to raise clams, scallops or some other shellfish other than oysters, they have to get a lease from Suffolk County to do so. So even though there are private grants that could grow oysters as we speak today, without anything from Suffolk County, if they wanted to get in the clam business or scallop business they'd have to get a lease from the County to do that. That's why when people say, "Well, you have all this land out there now." Yes, but you can't use it for things that you may want to use it for, and you're a public person -- not a public person, but if you wanted to go out there and get a lease from a grant owner, they don't have to extend you anything. Those lands are generally not available.

There is difficulty with respect to

how the State of New York has issued these assignments as difficult, perhaps, to find a new location because they haven't gone through an extensive inventory and analysis that ~~Cashen~~ Cashin Associates have conducted for us. So I think we're on a good footing to proceed with that. So I think we're trying to clear up in the program some of the discrepancies that have arisen over the years with respect to the old program and how it was administered by the State and a lack of oversight by the County, quite frankly, and proceed into this new century. What we're doing here today, and hopefully in the future, will be to more or less start a whole new era for this particular activity.

We're dealing with a situation that we've inherited since 1884, based upon outdated technology, based on old practices that ignored lots of things. We're trying to bring it up to date and you're setting the stage here for having a program that will continue over the next hundred years,

hopefully, where the ability to raise shellfish in this environment will be somewhat more secure and available as we proceed.

I hope I've answered your question.

MS. RUSSO: Yes, you have.

CHAIRMAN SWANSON: Mr. Greene?

MR. GREENE: Thank you. I think I'd just like to add and point out that ~~DEIS~~ DGEIS has been the subject of a great deal of work over the past 14 months. In addition to the public scoping session, there were two public information sessions held early in the year, January and February of 2007. There were almost monthly meetings of the advisory committee, and as part of the process we interviewed a large number of individual stakeholders, including fishermen, existing aquaculture operations, environmental groups, and just about anyone else who wanted to offer input into the program. All that information was used to develop ~~DEIS~~ DGEIS, but I think even more importantly it helped us in developing a

program that took account of all the diverse opinions. We heard about some of it. It helped us develop a program that we think will provide for modest growth of aquaculture but also protect the interests of the existing uses of the estuary, including the traditional fisheries and boating interests, for instance.

So it was a unique program in that sense, that we had a lot of information, not only to do the ~~DEIS~~ DGEIS, to help develop a program that we think fit with what we're hearing from the public and concerned interests on the East End.

CHAIRMAN SWANSON: Thank you.

I know you wanted to comment.

MR. KAUFMAN: DeWitt, you and I were talking yesterday. I was also talking with Jim. I was there at the start of this procedure, I was there for the scoping, etcetera, and yet even I got a little bit confused about what we were dealing with, so I wanted to try to get one central point clear. And correct me if I'm wrong; this

is, essentially, a leasing program in a contractual sense. It focuses on access issues, again, in a legal framework, and almost setting up a contracting program by Suffolk County. And again, I use those words in the legal sense because that's what I understand this program to be right now. I also understand it to have an aspect to it that DEC will be handling most, if not all, of the primary environmental reviews, regulatory aspects, etcetera, of generalized permits. I also understand this to be, essentially, a generic EIS, so when you put those two issues together, the County's role -- in this document, it's focused upon the leasing aspects and looking at the environmental impacts of leasing and of the contractual aspects, which is, essentially, a limited charge, hence the limited type of review undertaken here, and, again, the reliance upon DEC for the primary environmental review.

That's the way I understand this focus to be. I looked at the documents

again yesterday and this morning, but I basically asked this to make clear in my own mind what we're reviewing and how we're supposed to review it. Essentially because environmental permitting and management and, if you will, environmental mitigation is primarily left to DEC, we're not doing, if you will, a classic EIS of individual conditions and individual issues. We're doing it generically and its focus is upon, if you will, not the precise environmental impact, but how the County will regulate access. Is that a fair statement to make?

MR. ~~DAVIS~~ DAVIES: Generally, yes. And I think that the approach is that of a generic approach, that's for sure. It is focused on, again, this authority with respect to leasing, but I would just point out that those factors, some of those factors that you mentioned, natural resources considerations, for example, have been and will continue to be a factor in anything that the County does with respect to this program. You see on page -- there's a

foldout in the document after page 28, which contains a pictorial showing various environmental conditions that were inventoried as a result of ~~Gashen~~ CAshin's interviews, etcetera, and these are areas that are environmentally sensitive and/or actively used and, so, we are avoiding conflicts with users and natural resources by looking at additional areas that don't have those characteristics.

So the document is based on a consideration of those things that are more environmental, of course. When you turn the page you'll see the shellfish cultivation zone that is established in draft. And you'll see it's rather convoluted. There's a few dots and a few irregular shapes here, etcetera, but this area is the area within which leasing could occur. We've taken pains to include and grandfather the industry that is there now. The goal of the program is not to throw people out of business who are legitimate. If we did that, we'd be acting in a very adverse way

to the very people that we think are going to take advantage of this program. That area, "Oh, that's a large area." How large is it? I can approximately tell you how large that is. It's about 33,000 acres. It is about maybe 30 percent of the entire area in the County shellfish planning area domain, but that area is not all going to be leased.

That's not what's going to happen and, you know, we can envision over the first couple years of the program there being maybe 1 or 2,000 acres leased. One percent of the entire system. But the key here is to find adequate spots here within that gray area in a controlled basis so the system is not overwhelmed and that a moderate growth can occur. And we built in here -- ~~Cashen~~ Cashin has put in the proviso that the program be reviewed after its first ten years, and an environmental review would be undertaken to make sure that what was done in the previous timeframe is what you want to do in the future, or you change it.

So you're right, this is an access program, but that's the first step. New York State DEC often issues shellfish culture permits to growers. One of the conditions that they have is that the grower must have secure access to the underwater land. If they don't have access to the land, they can't get a permit. So it goes tandem there. This is the first step.

MR. KAUFMAN: The reason I brought that particular issue up -- and I appreciate the answer. The reason I brought it up was, again, I was not necessarily very clear. In reading this document and looking at it, I did not see the interplay, if you will, between the proper identification of this as a legal framework combined with the generic aspect of it. And that threw me on my first reading, yet I was aware of that. It's something I think should be clarified.

And look, for example, at page 25, description of those actions, and yet it does talk about -- it's properly titled as an aquaculture lease program, etcetera. And

it talks about the background of it, etcetera. But again, for my purposes, and for people reading this, perhaps a better explanation or a more nuanced explanation of how a generic is done and also saying that -- very clearly saying that DEC is going to be responsible for certain things and the County is only going to be focusing on certain things.

And again, if I could be, on my first reading of this, not necessarily seeing it -- and I know some of the other members have the same problem -- it needs a little bit better wordsmithing, if you will, to understand that. That was my primary comment.

MR. ~~DAVIS~~ DAVIES: Point well taken. I'm sure if we go to the public hearing state, there will be lots of other comments that we'll have to address, and that will give us the chance to answer those points specifically, and that may require new information. It might require extracting information that is already in here. Right

now, it's a 300-page document. It's tough to go through it, but we'll be able to tease those points out and hopefully augment and provide a better answer to your particular question.

CHAIRMAN SWANSON: Thank you.

Legislator Schneiderman, before you start, I'd like to say welcome back to CEQ after several years of absence. We're glad to have you.

MR. SCHNEIDERMAN: It's nice to be back. As you know, last time I was here I was here in my capacity as chair of parks. Chair of the environmental committee. So I'm pleased to be back.

First, let me thank ~~Cashen~~ Cashin as well as Mr. ~~Davis~~ Davies and all those involved in what I think is a very thorough document. First, I should say that of the hundred or so thousand acres available in the Peconic estuary systems, this lease program is contemplating, over five years, using about 300 acres, probably in five-acre leases, over a five-year period, so roughly 60 acres

a year or 12 leases per year for the next five years, and then possibly for the following five years a similar 300 acres. So we're talking about a very small portion of increased aquaculture -- it already is aquaculture going, so as we look at the environmental impact, I think it's important to understand that aquaculture is already happening on a much larger scale than what we're adding to it. And in trying to frame what some of the possible impacts of aquaculture could be -- and we typically think of aquaculture as a good thing in terms of we're adding more filtering capacity into the harbors to help clarify the water.

There are three things that jump out in my mind, and one is the navigational issue, which you covered here because you are setting up buoys, you're setting up the cages for off-bottom aquaculture that could potentially interfere with the movement of ships in a storm, could basically have objects that might be moving about.

The second issue would be issues of carrying capacity. If you're doing this industrial aquaculture and adding this filtering capacity, you are using a food supply because these bivalves are, I guess, metabolizing or using algae as part of their growth. So could you, at some point, be depriving other species' food supplies? So that would be one category to look at. I know you've done some work on that.

And the third category that jumps to mind, from an environmental standpoint, is the possible introduction of contaminants or species that might take off, so to speak, indigenous species that would create problems for the traditional marine life through their introduction.

So other areas of environmental concern, if you could point them out, but maybe you could provide a general overview for this body. It seems that aquaculture would, on its face, have a positive environmental impact, and we're looking at an environmental statement and trying to

make a judgment as to whether this program is a good thing for the basis -- I think it's important, at least, to kind of frame the major issues and give us your take on what they might be and, if they need to be mitigated, how they would be mitigated.

MR. ~~DAVIS:~~ Davies: Greg, maybe you can give an overview of how the program is envisioned at this point. Actually, it includes a lot of the mitigation that we would approach this particular issue with.

MR. GREENE: I think the one concern that arose more than any other during the course of putting together the EIS was the issue about conflict with existing users of the estuaries, existing users being commercial fishing and shellfish industry that already exists out there. That's the issue that kept coming back more and more frequently as we went through the process. And what we did is speak to those interests to the extent possible to identify which areas they considered of primary importance to their businesses.

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MR. SCHNEIDERMAN: When you're talking about other users, you're not, per se, talking about other leaseholders, you're talking about fishermen and...

MR. GREENE: Working with wild harvesters.

In developing the map indicating where we felt these leases might be appropriate, we excluded those areas that were felt by those groups to be most important to their business. And then a good example is the eastern part of the estuary. Town of Southampton, interests in the town of Southampton expressed a concern that a large part of that area was used for their fishing industry and, therefore, we have very limited areas available for leasing in those waters. In particular, we sat down with the town -- various people in the town to identify where they think it would be appropriate, and that's how the areas were defined.

MR. SCHNEIDERMAN: No currently productive areas would be considered for

leaseholds; is that correct?

MR. GREENE: The basic premise is that we were looking for areas with the lowest productivity. And the project has a built-in mechanism to check that if someone actually does propose a lease in the area, there is a public notification period in which someone disagrees with that premise, that they believe it is a productive area, they will have the opportunity to say that and provide documentation.

MR. SCHNEIDERMAN: I actually went out to see how this kind of worked with oysters. I spent the day with Mr. Pell and I got to see his operation, but what I see is -- they fill bags with the small oysters, these kind of mesh bags, and they stack them one on top of each other in these large cages and, so, you basically have an enormous concentration of oysters in a particular spot. And I'm wondering -- I know we're spending a lot of time cleaning up duck farms now because we're finding them to be tremendous sources of nitrogen

contamination in bays and harbors.

Can there be a problem with byproducts, so to speak -- I'm trying to figure out the right word to use. When you have that many oysters in one spot, obviously there's a waste product that's produced, and it's going into the system or maybe it's falling to the sea bed in that area. Could it render an area -- even though it may not be productive currently, could it make that habitat -- maybe in the past, historically, maybe it wasn't productive, but currently it is, couldn't it potentially render that area completely useless in the future?

MR. GREENE: Well, I guess brought to a certain point, if you had such an extreme quantity of aquaculture operations, you could start to have negative impact. That's not what's proposed here. We have a very modest, I'll call small-scale type of zone proposed. On the other hand, there's a lot of scientific evidence that suggests that aquaculture at this scale actually has

positive impacts on the ecology. The cultures themselves are used as habitat in feeding areas for fish and other shellfish. They serve as mini artificial reefs, in a sense, to bring in life to an area. And even in a natural environment, shellfish do tend to live in dense populations, dense muscle beds, dense clam beds. A lot of the natural population has declined for various reasons over the last few decades. But generally it is believed that shellfish are good for an estuary.

MR. SCHNEIDERMAN: Is there a point where you've done too much, where you've actually over-clarified and taken away the food source that other organisms depend upon?

MR. GREENE: Well, again, I think that's theoretically possible, I mean, in an extreme case, but what we're doing here is having very limited scale buffers between aquaculture areas, and in total a very small percentage of the available land would be devoted to aquaculture. So those type of

impacts would be far --

MR. SCHNEIDERMAN: So you're saying that the supply of algae far exceeds -- we won't have any measurable impact on food supply?

MR. GREENE: Not at this scale. This is a very moderate program.

MR. SCHNEIDERMAN: But in terms of clarifying water, or at least eliminating pollutants from the water, this is something that should have a positive effect?

MR. GREENE: It should start to have a positive effect, yes. And it also will provide sporting stock, hopefully, to help bring back some of the wild stock that used to exist in the bays.

And to answer one of your concerns about the introduction of species that shouldn't be there and toxic material, the DEC has strict guidelines which seed stock could be used for this program. There's a lot of protective measures in place, and those measures are even becoming more strict to prevent issues like that happening.

MR. SCHNEIDERMAN: Is it possible, using the approved seed stock, that a pathogen might be introduced, a fungus or whatever it might be, in one of those clams or oysters that now is being introduced into the system that could potentially devastate the productivity of the harbor?

MR. GREENE: Seed stocks need to be deemed safe. They're tested to be disease-free. It's probably more likely the reverse would happen, that aquaculture stock could be affected by disease agents already in the estuary that were there all along.

MR. SCHNEIDERMAN: We're not doing this in any channels, I know. In general, these are deep water areas, correct? So the cages would be below the depth of any of the boats that are in the areas, right?

MR. GREENE: In developing the shellfish cultivation, no. That was an issue that had to be incorporated. We are eliminating channels and buffering areas around channels, and we're eliminating areas that are important areas for both

recreational and commercial boats. And, plus, the structures, the cages, the buoys, all have to meet requirements set up by the Coast Guard and other regulatory agencies.

MR. SCHNEIDERMAN: The provision if somebody stops cultivating oysters or whatever they might be, to remove their equipment from the sea ~~bay~~ bed?

MR. GREENE: That was another issue that came up and we do have provisions for that as well.

CHAIRMAN SWANSON: I have a couple follow-up questions. The aquaculture business has been known to use antifouling paints and so forth on some of their nets, gear, equipment and so forth. Is that an issue that you've looked into in this situation?

MR. GREENE: We looked at the existing operations and there's no indication that that's a problem at this point. I think in cases where it's done on a larger scale, larger commercial scale, that may be an issue. That's certainly

something that could be built into the program to ensure that they're doing what's right for the environment.

CHAIRMAN SWANSON: I would encourage you to try to do something with regard to antifouling issues.

Then following up again on navigation, I know that the areas are to be blocked off with buoys and so forth, but in this particular area there are going to be a lot of small recreational boats that are probably going to be out at night and not going to be able to see these marker buoys and so forth, and I'm sure you won't have them lighted, so what is the likelihood that that situation of people being out there on a summer night are going to run into these buoys and equipment that are in the areas you're proposing to be used?

MR. GREENE: Well, the equipment used will be marked by a rather small buoy, about the size of a lobster buoy, and they'll even use ropes that sink instead of floating along the surface to minimize the

possibility of entanglement in propellers. You should also know that the bay now is filled with markers used by the commercial fishermen for the whelk industry and, to a lesser extent, lobster fishermen. There's already a lot of markers out there that people need to avoid navigating at night, but these markers will be done in a way that will minimize interference with boat traffic.

CHAIRMAN SWANSON: Again, the concern of public access out in Washington state, where they have leased shellfish lands, they get very obnoxious about -- the shellfishermen get very obnoxious about anybody that goes into their area, to the extent of being extremely violent in some cases, and they don't even allow people to walk along the beach. Is this a problem that we could be confronted with here?

MR. ~~DAVIS~~ Davies: I think, Larry, you're mentioning a situation that's not quite analogous to what we have here. Some of the western states actually sold their tidelands

to private parties. They own the property, they own the upland. So it's a little bit different situation.

CHAIRMAN SWANSON: There's not going to be any uplands, beach space involved?

MR. ~~DAVIS~~ Davies: No. In fact, if you look at the cultivation zone, one of the things that you had to do is to eliminate the buffer zone 1,000 feet from approximately high water. So right off the bat, before we can begin all the other things that we've done here, we eliminated 19,000 acres along the shoreline from future consideration. You can't lease there, can't -- we don't have any authority over that.

CHAIRMAN SWANSON: Are these people going to mobilize to go out and take care of their leased land?

MR. ~~DAVIS~~ Davies: They're doing it now from various shoreline locations. They're doing it essentially in a private way. There's been some discussion that maybe there should be some opportunities created for commercial fishermen aquaculturists because of their --

again, the difficulty of shoreside access for boats and what have you, but this program, in itself, does not address specifically those shoreside issues. That is a sidebar that could be considered in the future, but people have brought that up. They have brought up that question, and maybe there are opportunities with respect to the North and South Fork where an access point or points could be provided in some way.

MS. GROWNEY: My question has to do with, might there be any kind of educational program that would go along with this?

MR. ~~DAVIS~~ Davies: The extension has a program underway dealing with identification of best management practices for shellfish aquaculture. They're doing that as part of the Broader Northeast Aquaculture Center initiative and, so, that's part of the education program that the shellfish farmers can take advantage of. There may be simple things that they can do to improve the viability of their operation and the

wholesomeness of their product, and it might be a simple thing as to turn off your outboard engine when you're tending your gear. Because if there's any unburnt fuel in the water, you could potentially, in some way, compromise your product.

There are very simple things that can be done and there are efforts outside of this particular work here to accomplish that, but one of the products that will come out of this program is a summary document which will describe for the public what they need to know in terms of how to participate, where to go, what forms to use, etcetera, etcetera, etcetera, and we want to make this user-friendly. So, in essence, the nuts and bolts of the program will be contained in a 20 or 30-page document outlining all of that. This is administrative guidance that the County will be able to provide as part of this project.

So we go out and talk to people with respect to the policy review, and they'll be able to see what will actually happen and

how the public will interact with it in terms of criteria, what are the forms, what are the procedures, what are the timelines, what is the public notice requirement. Every application will have to go through a public notice requirement. It's part of State law. All the towns are going to be notified about it, how the County would make that administrative decision.

All those things are coming and will be, not only in the program document, which is people like us, but in a summary form for the public.

MS. RUSSO: Mr. Greene, I think you'll be able to answer this question I have. On page 295 of the document, table 39 talks about potential to be adverse impacts for the program. Basically, the mitigation measures for each of these parameters limits on numbers and placement. I realize earlier, when I questioned DeWitt as far as the purpose of the State doing this lease with the County -- because when I first read the document, I was expecting to see more

scientific data, positive and negative, for shellfish to aquaculture, and then reading this on the chart, on page 295, basically, -- placement, but I was hoping to see a little more scientific data from other counties in order to have information showing positive and negative impact of shellfish aquaculture. And I realized, after DeWitt answered my question earlier, that this really wasn't the document -- leasing program of this.

And you did mention somewhere earlier in the document about Virginia and some aquacultural programs there and another municipality that was preparing some best management practices for aquaculture. Could you just go into a little more detail of where you're getting these mathematical processes involved and the Virginia study and let's just have a little more background?

MR. GREENE: Yes. And just with regard to the table, the two primary mitigating factors for the program are to

limit the number and the amount of area devoted to aquaculture. So that's why that was kind of given a high priority in that table, because that was the first step in identifying the program that we wanted to avoid conflict with existing users. As part of the ~~DIS~~ DEIS and as part of another document we're producing in the administrative guidance documents, we have reviewed what's being done in other states throughout the East Coast. Most of the states are well beyond what New York State is as far as aquaculture. Most of them have much more extensive aquaculture programs. In some states it's a substantial maritime business. So there is a lot of information on these programs and that, to the extent possible, we're reviewing for use here. We're picking and choosing parts of those programs to make applicable to this situation. So there is a lot being done in different states, all the way from Maine down to Florida.

MS. RUSSO: And I think you did touch on it just a little bit, but I think for

myself coming in cold reading the document, and I'm thinking of the public hearing, that maybe it would help a little to have a small chapter on other states, municipalities that have pursued more aggressive aquaculture programs and show their results and studies of these programs.

MR. GREENE: Yes, that can be done. As I mentioned, there's another document that will be prepared soon that will draw upon the resources already available from the other states' programs.

MR. KAUFMAN: Let me just interrupt you for a second. Larry just left the room; I'm acting chairman right now.

Gloria's point is well taken in terms of looking at the environmental impacts that those states have seen and how they have tried to mitigate and, if you will, deal with those particular issues. To the extent that we're in a ~~GEIS~~ DGEIS situation, not everything has to be placed in a document, but to the extent that we're trying to make sure that this particular ~~GEIS~~ DGEIS has that

information in there, you might be well advised to put this into this particular document at, say, the FGEIS stage as opposed to having it in a separate document that you might be developing in the future, unless that second document is produced at a time the FGEIS is developed and made a part of this. In other words, you may have two options: You can either stick that information in this document now or else make the second document that you're talking about, make it a part of this document.

Given the fact that it's being raised by Gloria -- frankly, it was going to be raised by myself, also -- it may become an issue that you need to look at. And again, I take cognizance of the fact that this is a generic, so you don't have to go into every individual aspect of every little detail.

So I throw that out for your consideration, if you will.

MR. GREENE: Yes. I think both can happen. The other document will be done within the ~~FEIS~~ FGEIS timeframe. And, also, a lot

of this information can be addressed in the FEIS as well. Working with us on this project is a shellfish aquaculture expert who's very familiar with the New Jersey experience, and he is independent from this project, also working with the shellfish growers on the East End and developing best management practices. So that's a resource we have available to us. He's helped us with this document, and he'll help us include discussion of those type of issues in the FEIS as well.

MR. KAUFMAN: Basically, my intent, obviously, is to fireproof the document; make sure that there's enough consideration in there so that the issue is identified, there is some general, if you will, mitigation, general description of impact, etcetera, in a sense that people can see it's been considered, people can look at it, know it's in there, rather than having a gap in there. That's what concerns me.

CHAIRMAN SWANSON: Anybody else?

MR. KAUFMAN: First off, going back

to a question that Eva had raised regarding public education, in our legislative packet number 1216 there's a local law that has been proposed by Legislator Schneiderman, who conveniently is here today to possibly talk about it. It's a local law to reduce the use of fertilizer near wetlands in Suffolk County. To the extent that we know that nitrogen is a problem and fertilizer runoff is a problem in this county and has affected the Peconic, this kind of bill, if it passes with a -- I believe it's a hundred-foot setback for the use of fertilizer, that's the kind of thing that could go into a public education component of all of this, and, I think that's very, very important. I don't know the percentage of runoff of fertilizer as compared with the groundwater component of fertilizer going into a PEP, or the Peconic estuary area, but this is the kind of exact thing that's easily identifiable, easily made a part of an education aspect, and, I think, very, very important. I think it's a very good

bill in that sense.

If I may, Mr. Chairman, I've got a couple other questions. My concern is some of the harvesting methods that are identified. Basically, if you will, they come down to hammer and tongs versus hydraulic methods of some sort, sleds, suction pumps, whatever. And some of the justifications in there are a little bit worrisome to me. I point out page 209, where, down at the bottom, it says: "As noted previously, hydraulic pressure in Oyster Bay Harbor by Frank M. Flowers Company has not resulted in noticeable system damage." And several times through the document, it is referenced that these conclusions are from personal communications with the Flowers Company. Now, I know Flowers has got a pretty big operation out there, and it seems to be thriving, and there don't seem to be many problems, but what concerns me is that there's a lack of studies of, for example, Oyster Bay Harbor complex.

As to whether this is a true statement or not -- I don't know if there's studies out there one way or another. I don't know if anybody's looked at it. It would be interesting to see if, again, the statement by the Flowers Company is, indeed, accurate in terms of impact upon the ecosystem.

That's just a concern in a nearby harbor.

CHAIRMAN SWANSON: I find the hydraulic dredging an issue, in my personal and quasi-professional opinion on fishing, to be totally objectionable. You know, people are making -- practically going to war over any proposal to put a cable across the Sound because of the one-time dredging to put the cable in and that the bottom is going to be forever torn apart, but, yet, here we're talking about sort of casually hydraulic dredging on a periodic basis is just fine, and I think the fishing industry using draggers and so forth, and torn up the bottom of many of our coastal waters, and

this process also tears it up, and there is long-term damage at the bottom, so I would encourage you to try to eliminate the use of hydraulic dredging in these lease areas.

MR. KAUFMAN: I'm glad you brought that up. I actually second what Larry is saying. I'm glad that he brought it up. As someone who deals in a professional capacity with coastlines and the water more than I do, I was hesitant about making a statement like that. It is worrisome to me that some of this mechanical hydraulic dredging can have an impact such as he was describing. I've seen reports about impacts on the flounder industry, I've seen the draggers offshore, and I've seen people following front of -- etcetera. While I'm not necessarily wholly against it, there was information in here that some of these methods were less then permanently damaging, etcetera. In terms of SEQRA, it's good to identify. In terms of SEQRA, it's something that has to be thrown out there. In terms of SEQRA, it's something that the County

should have examined by the public so the public can comment on it.

My personal predilection might be that mechanical dredging might not be something that, at least in these areas, we want to necessarily pursue. We're talking about restoring an ecosystem, which is actually one of the purposes of this program. I'm not a hundred percent convinced that we should allow, if you will, techniques that can undermine one of the intents, or the basic intents, of the program. So that's worrisome to me. It's something, probably, others will bring up, and it's probably something that should be looked at again in the FGEIS. The good thing about this is, again, it's a generic, so you are allowed to, in a SEQRA sense, look at this and throw it out and say "Sometimes some areas may be perfectly appropriate for hydraulic dredging," as opposed to a site specific, where you can make that specific judgment.

So, again, I'm talking about this in

a SEQRA sense, how we need to look at the document. And then Larry, in a policy sense, may be correct.

I have a couple comments on the organization. I'm just sort of jumping around a little bit. The index, and also the way the document is laid out in section 4, is very, very not well laid out for me. In looking at page 2 of the document, where the index has a black face Section 4, "Environmental Studies, Impacts and Mitigation." Okay, I understand that, but then there's no, if you will, boldface for section 4.12 "Impacts" than Section 4.13. And then you start getting into 4.13 -- 4.1.3.14. You need to break that up a little bit in the indexing so you can see what's going on and boldface "Impacts" and boldface "Mitigation." And also set that up in the document itself, where you start talking about actual impacts and then actual mitigation. For example, page 228, it just jumps right in, and I started reading this and I went right past it. I mean, I read

it, but I didn't realize it, really, that I was in the mitigation section. It might be worth it to have a paragraph in there saying what you've done, saying SEQRA requires that mitigation be undertaken. Just sort of a stylistic, if you will, set-off so that it just doesn't run on from one section to another. And, again, I'm looking at 228, for example, and some of the other sections beyond that.

Legal point for a moment. This is something that, DeWitt, you and I had discussed yesterday. There's no provision in here that if Suffolk County gives a lease and DEC gives a permit and operations begin, let's say two years out, something like that, somebody finds out that realistically the lease should not have been executed; that there's some sort of an ecological problem down there that nobody spotted. DEC can cancel its permits, but there's no provision in here for Suffolk County to cancel the lease. And, in other words, there's no real provision for cancellation

of bad environmental leases. I think it's on page 51, for example, number 16, "Termination of the Lease." You're looking at language saying, "the County may terminate the lease if certain conditions of the lease are not met."

Again, that's the contractual aspect. And it talks about nonpayment of the lease fees, violation, etcetera, but it doesn't -- and it does say "significant adverse impacts on resources," but it may need to phrase just a little bit more in terms of the legalities of it; that if there is a problem seen, the County can unilaterally cancel -- or maybe not unilaterally, but it can cancel if there are problems. Obviously, you don't want to get into a taking situation or anything.

MR. ~~DAVIS~~ DAVIES: Right. And I think we've had a lot of discussion about how the administration of the lease program, how it would occur, and there definitely will be a section in here described in the administrative proponent document about

lease termination, the transfer, etcetera, what would be allowed and not be allowed, and the timeframes involved with respect to terminating the lease. In essence, if someone is doing an activity and you had to phase him out, either because there's a change in the cultivation zone because of an environmental question -- and that's required under the law. Every five years the County has to look at this zone to determine whether it should be changed. If somebody's in the zone today and the zone is changed in the future because of these unforeseen things, there has to be a phase-out of that operation, and we have that considered. He may have shellfish stock on the bottom, for example, or in cages, for example. He has to have a period of time to finish growth of that crop before he's kicked out.

MR. KAUFMAN: That's the 5th Amendment aspects of it.

MR. ~~DAVIS.~~ DAVIES: I don't know what that means, but --

MR. KAUFMAN: If you kick the person out after he expended resources, in a capital sense, it would almost be a taking if he was removed from the property without being able to remove those capital resources.

MR. ~~DAVIS~~ DAVIES: But I think that --

MR. KAUFMAN: That can go in the administrative section.

MR. ~~DAVIS~~ DAVIES: I think we're well aware of that, because of the required reviews that have to happen under the State law and under the program here. The question about terminating people because they're not living up to their end of the bargain or because environmental conditions have changed in some way that you haven't predicted, there is the ability to cancel them out. See, right now, this is making it certain that, in that sense, provides some perspective for people coming into the program. They know what will happen, they know -- they could be given the opportunity to move to another location where those

conflicts aren't apparent. See, that's what's important about this particular approach, and I think that's the way we set it up. I think you have more details on that in the program document.

MR. GREENE: It was the intent of both Component 7, "Relocation of Leases," and 16, "Termination of a Lease," to give the County the right to relocate a lease or terminate a lease if, for environmental reasons, that location is no longer acceptable or suitable. And that could be brought out in more detail, in the FEIS as well as the administrative document. On page 50, item 7.

MR. KAUFMAN: Yeah, I did see that.

MR. GREENE: Item 7 is if, for whatever reason, the area changes or becomes more productive for natural shellfish stock or some other change, the County will have a right to relocate that lease. And in item 16 on page 51, it will give the County the right to terminate a lease if someone is operating in a way that's deemed

unacceptable and inappropriate from an environmental standpoint and other standpoints.

MR. KAUFMAN: On page 129 -- and this is a question toward science -- has anyone mapped out the water flows? There's a -- beginning at the top, it's talking about differences in response of the different assemblances. For example, you have adult hard clams growing best in certain currents one way, currents have less influence on scallops another way, muscles are located -- mentioned in here, also.

Has anyone done any mapping on that or...

MR. GREENE: As far as water circulation?

MR. KAUFMAN: Yeah. That might be a predictor for the types of assemblance that can grow.

MR. GREENE: There have been studies done on water circulation in the bay. And it's a given that some areas will be better for growing shellfish than others. We want

the program to have some flexibility so that if someone has an idea that one area is better for growing oysters than another, they can hopefully pick an area where they feel it might be a good area. A lot of this work we think will be done by baymen who want to diversify, and a lot of them have an idea as to where the water circulation would be best for growing oysters or other shellfish. So we think even if all the scientific data isn't there, there will be a lot of common knowledge as to where water circulation might be best for certain operations.

MR. KAUFMAN: In a SEQRA sense, will this information be available or could it be made part of the document? Or is there something you might want to put in the administrative section?

MR. GREENE: Well, there are certain references that refer to studies done of water circulation. If they're not in this document, it can be brought out in the FEIS as well.

MR. KAUFMAN: Again, I'm not asking you to do a, if you will, classic EIS, where each individual parcel is assessed and each individual piece of information is needed before you can realistically make a judgment. Obviously, this is a generic. My focus in terms of asking these SEQRA questions is to -- well, these are things that I saw that might be helpful in a large, if you will, generic sense. If you've got a map out there and this kind of information is out there, I don't think it's going to alter the document. It might be helpful to make it a part or make it available to people. That's all.

MR. GREENE: Yes.

CHAIRMAN SWANSON: Mr. Greene or DeWitt, can you explain a little bit about your expectations about monitoring?

MR. ~~DAVIS~~ DAVIES: The program, as discussed, there's a need for this, and I know that ~~Cashen~~ Cashin has examined this particular question, and it is interesting to note, I think, that we may be able to

capitalize on programs that are underway in large, especially those that are underway now. The Department of Health, with respect to the Peconic estuary program, they have -- extensive water quality monitoring set-up out there, and we were talking about -- it might be very useful to look at specific culture situations that are typical of the kinds of operations that may be anticipated to occur out there, and devise a specific program to look at and try to determine if, in fact, any conditions will change to a significant degree or not. I'll ask Cashin ~~Cashen~~ to address that later today, but I think in looking at -- there may be several things that have to be done during the course of implementation. That is certainly one of them. And the program review in five years to determine whether or not the cultivation zone should be changed.

So, yes, the first ten years of this program, if set up properly, will provide information that will be useful in terms of modifying how it will be implemented during

the second ten-year period. Certainly there might be new answers there. There is monitoring and investigations underway that aren't complete today. Whatever mapping program that's underway for several years now. This information, when it is available for the entire system, will be useful in its own right in determining, perhaps, additional input to the process here where, based on the condition, etcetera, pose the least environmental threat in terms of activity on those resources. So we have more input coming. They're not available to us today and, hopefully, we'll be able to take advantage of that.

MR. GREENE: Well, in our review of the scientific literature, I found a good article to what would be the ideal monitoring to implement in conjunction with aquacultures. Some of them are ideal in the sense that they're very detailed, very extreme. Others are a little more moderate, so there are some good examples on what should be done. I'd also like to point out

that the program that's currently envisioned has a provision for experimental and educational leases. Certain groups have expressed interest in perhaps getting a lease where they could actually conduct experiments with aquaculture, experiments and tests of what some of the impacts might be of different types of aquaculture systems. So that's another provision that's built into the program that would help develop monitoring needs.

CHAIRMAN SWANSON: Just a comment on monitoring. In my opinion, Suffolk County moves forward with this, that Suffolk County ought to also be willing to invest in a monitoring program that is going to assure the long-term success of the endeavor and not just rely on self-monitoring by the lessees. Quite frankly, I think self-monitoring is self-serving, and so I would like to see that the County has the ability to get access to the individual leases to see how the activity is being carried out; whether, in fact, it is

productive and beneficial. And, also, from the more holistic point of view, it seems to me that Legislator Schneiderman has raised important issues that the County also needs to cope with, and that is the long-term productivity of the bay, given that you're imposing this hopefully beneficial activity in the area, and that we ought to be looking five years, ten years down the road to see whether, in fact, there is sufficient food to sustain a program that you're proposing.

So those are some things that I would like to see put into the document as a commitment to the overall success of the program.

MR. ~~DAVIS~~ DAVIES: A good case in point there, and there may be many things that we should do with respect to how the program is implemented. I think we are developing those, and certainly the comments today -- and we hope to get in the near-term here, and it definitely appears to be good.

CHAIRMAN SWANSON: As you know, Suffolk County has an outstanding water

quality monitoring program already in place for many things, and I don't think it would be extensive commitment of additional resources to modify the objectives to address specifically the issues that we're dealing with here with the aquaculture program.

MR. ~~DAVIS:~~ DAVIES: I think that there's a lot of technical questions embedded in that suggestion, and I think you suggested or hinted that that program will not be sufficient to do what you think it should be doing, but I think we can talk about that. And again, it might be stationed right near where we would like to see this activity occur, and we might be able to encourage them to add a few stations, perhaps, and add different kinds of parameters that might have to be assessed over time, and I think we would be able to address exactly what you're saying now. I think we can make that as part of the administrative arrangement, and I think it's a good idea.

MR. KAUFMAN: One last question on my

part, and this follows up with the first question, where I was looking at how the program was structured. Mitigation is my other concern. As I read this document right now, it states that primary mitigation here will be done in essentially two areas: DEC will be controlling all permits and will be doing the primary environmental analysis, and the County will basically be doing mitigation by basic avoidance of identified sensitive areas. That's the thrust, if you will, of what I see over here. Is that an accurate statement?

MR. ~~DAVIS~~ DAVIES: The law requires the County to do what we propose to do. There are certain stipulations in the State law that point out areas that should not be leased, and we've tried to follow those stipulations in coming up with the approach that is before you. But it is true that, again, the County is not going to be in the business of regulating aquaculture because it doesn't have the authority to do that. This law that the County is operating under

is in the conservation law, Section 13302, I believe. Other sections of the environmental conservation law relate specifically to the conduct of shellfish cultivation and the permits that are required to be issued in order to let people do that kind of thing. The State of New York is the regulatory agent here, and those decisions are made by the State.

Again, as we tried to point out before, access is one issue, regulation is another. And the ultimate decision, with respect to those permits, are New York State DEC's to make. In addition to this lease process, which we envision public notice and a review and a certain period of time, etcetera, an individual would have to get these permits from the State of New York, which are also subject to those kind of processes. The State DEC. I'm not sure if that answered your question.

MR. KAUFMAN: That fully answers the question.

CHAIRMAN SWANSON: Legislator

Schneiderman.

MR. SCHNEIDERMAN: Again, I think this is an excellent program. This body is being asked to review a generic environmental impact statement, not just the program itself, and I thinks it's a policy question. I think, in general, we have been promoting aquaculture in all sorts of ways, including seeding of ~~Gray~~ Great South Bay and Northwest Harbor and many areas. It's hard to imagine anything but positives coming out of a program like this. I think that's my main point and I'd like to see it move forward. Again, in the beginning, we're talking about 12 individuals getting five-acre leases. It's a very small amount of increase to aquaculture and it's hard to imagine how that could possibly do anything wrong, but I think the document looks at everything that could possibly go wrong and does mitigate it, so I think you've done an excellent job there. We, as a body, are asking to be revised or are we going to be asked to vote it in, I leave that up to the

Chair, but I'm satisfied in general that you've covered the primary bases and that we can move forward here.

CHAIRMAN SWANSON: DeWitt, I have another question, and that -- well, maybe I seem like I will be skeptical of some aspects of the program, but I do have a question of: How did you decide on how you were going to expand it and, in fact, is 600 acres too little, and should we be looking at why isn't it 1200 acres? Why isn't it 2400 acres? And why are you expanding only ten percent per year?

MR. ~~DAVIS~~ DAVIES: That specific figure, this 60 acres per year, first five years is 300, second five years is 300. That is referring to areas that are not currently used for aquaculture. There's new activity, in other words. I mentioned before there were 32 assignments that are five acres each, so we can multiply and it comes to about 150 acres. That's part of the program that's out there now. And obviously those people would like to continue their

operations. Under the program as it stands, those individuals would have an opportunity to stay at five acres. Now, if they are in an area that is not a problem with respect to resources and socio-economic, etcetera, etcetera, they might have the ability to expand to ten acres at that location. See, this is an ability for them to expand their operation if, in fact, they would like to do that. So there's some flexibility there.

There are some opportunities on the private grants that are already under permit. About 12, 1300 acres have permits already for various things, but there's a lot of extra ground out there that will be protected. There might be an opportunity for some of the FALO grants to be used, but we're looking at that at a very limited basis. Maybe a ten-acre lease, or something, on a FALO grant.

Is there any scientific way that we've come up with some of these numbers? The answer is no. I think we've come up with the numbers strictly by asking the

public and the people who have attended our meetings that last two to three hours a pop and we have 40 or 50 people. We've done this 13 times. We've responded to them in trying to come up with a structure that relates to what they've said, and some people, frankly, have said, you know, this bulk of property, if you look at the private ownership and the assignments, it might be, like, 6,000 acres, right? So we say, "Well, that could be used at some point." There are certain rights that people have if it's a grant, for example, but there's an opportunity to expand on some of these grounds, and that's true. And we thought, well, maybe take a percentage of that 6,000 acres, and that's what it is. Take, what is it, 1 percent, Greg?

MR. GREENE: Yes.

MR. ~~DAVIS~~ DAVIES: One percent of 6,000 is... Well, I can't... But that's what it is per year. So that's how we derived that figure. And some people say, "Well, maybe it's too little." Some people say, "Well,

it's too much." It's an approximation. It's an accommodation, if you will, based on the comments that we've received, and we're trying to keep it, as Greg mentioned earlier, moderate growth in an activity that is underway now, out there, but giving those people an opportunity to perhaps have the ability to expand, which they don't have now.

Legislator Schneiderman mentioned one of the companies that he visited -- and it might be approximate -- he may have 2 million oysters in cages on the bottom. Now, if you have 2 million oysters, and maybe they pump 30 gallons per day for oysters, so that's 2 million times 30. That's 60 million gallons per day that they can filter into Riverhead. The Riverhead sewage treatment flows one million gallons per day.

So shellfish can, and do have, from what we can understand here, an environment that's tidally well-flushed out there. It's not a fjord. It's not where the circulation

is dramatic from top to bottom. This thing is pretty well flushed. As we all know, these shellfish can have -- again, a gut feeling we have, I think, is a very positive influence on water quality, and that is the benefit to the public aside from some people getting marine-oriented jobs, but there is a public benefit from this activity that will accrue based on this leasing program. And I think we're pretty strong on that point. We're not putting in a fuel -- these are shellfish, and if done correctly, with all the safeguards that we can bring here, and in a moderate pace, moderate pace that you can continually look at to see: Is it too little? Maybe we can afford a few more. If it's too much, we don't have to issue any more leases; we're done.

And I think that that approach is the best way to proceed because there are some uncertainties there, too. But, again, with the information that we've come across here, waste is on the bottom, clams in the bottom, etcetera, if done properly, we'll have a

real positive benefit to the public at large to water quality, etcetera, etcetera.

CHAIRMAN SWANSON: Thank you.

Any other questions?

(No response.)

CHAIRMAN SWANSON: All right. Is there anybody from the public that is going to want to speak on this matter?

(No response.)

CHAIRMAN SWANSON: Okay. So our job here today is to ascertain whether or not we believe that the scoping process and the information that is provided in the ~~DGIS~~ DGEIS is sufficient to move forward with the public hearing and the process in general. So I would like to entertain discussion for that to see if we can't get the ball rolling.

MR. KAUFMAN: My personal opinion right now is probably this is good enough to go. Obviously, in the process, we have a draft, and then we have a final on all of this. I've picked out a few issues, Gloria has picked out a few issues which we think should probably be addressed on the final.

I don't think those issues right now are significant enough to prevent this from going out to public comment and letting the public start talking about all of this. Maybe they'll raise some of the same issues, maybe they won't. Maybe we're going to have other issues, but I think it's identified enough what is out there to probably give a pretty good framework for discussion by the public, if they read all the documents. And again, I come back to the fact that it's a generic. It doesn't have to go into as much detail as an individual EIS. So that's my opinion, and I'm sticking with it for the next ten seconds.

CHAIRMAN SWANSON: Anyone like to make a motion?

MR. SCHNEIDERMAN: I would like to make that motion.

CHAIRMAN SWANSON: Your motion is that the document is sufficient --

MR. SCHNEIDERMAN: To move forward to public hearing.

CHAIRMAN SWANSON: To move forward to

public hearing. Good enough.

Okay, we have a motion and we have a second.

Do we have any comments on that motion?

(No response.)

CHAIRMAN SWANSON: All those in favor?

(No verbal response.)

CHAIRMAN SWANSON: Opposed?

(No verbal response.)

CHAIRMAN SWANSON: Motion carries.

I'd like to thank you all for your patience in dealing with our questions today, and we look forward to working with you as the process moves forward.

MR. ~~DAVIS~~ DAVIES: I'd like to thank the Council and we will proceed with the public hearing on the 17th, and we look forward to your participation and address all your concerns. Thank you.

MS. RUSSO: Mr. Chairman, I just want to ensure that we also have the people in front of us understanding that ~~FOIES~~ FGEIS is an

issue addressed that we brought up. I don't know if that was clear, what we just voted on. And I wanted to ensure that.

CHAIRMAN SWANSON: That's your understanding?

MR. ~~DAVIS~~ DAVIES: We've taken notes on those issues, and we will address them.

CHAIRMAN SWANSON: Okay. We'll give our stenographer a five-minute break. Her fingers are tired.

THE REPORTER: Thank you.

(Whereupon, a short recess was taken.)

CHAIRMAN SWANSON: One item here that is informational as opposed to something that we need to take a vote on and need a quorum, and that is the update on the Cornell report on stormwater management. So you want to come to the table and start that presentation, if you could?

Emerson, it's good to see you again.

MR. HASBROUCK: Thank you. Good to see you again as well.

MR. KAUFMAN: Just do us a favor and

Appendix C
Draft Generic Environmental Impact Statement
Public Hearing Transcript

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ORIGINAL

SUFFOLK COUNTY COUNCIL ENVIRONMENTAL QUALITY

in conjunction with the

SUFFOLK COUNTY DEPARTMENT OF PLANNING

Public hearing on the Draft Generic Environmental Impact Statement
for the
Suffolk County Shellfish Aquaculture Lease Program
in Peconic Bay and Gardiners Bay

April 17, 2008
7:00 p.m.

Riverhead Town Hall
200 Howell Street
Riverhead, New York

P A N E L:

R. Lawrence Swanson, Ph.D., Chairman
S.C. Council on Environmental Quality

Thomas A. Isles, A.I.C.P.
S.C. Department of Planning

James Bagg,
S.C. Council on Environmental Quality

Dewitt S. Davies, Ph.D.,
S.C. Department of Planning

R E P O R T E D B Y:

CHERYL A. FERRELLI, RPR
SENIOR COURT REPORTER

PUBLIC SPEAKERS:

Bob Wemyss
Charles Murphy
Karen Rivara
Jim Markow
Michael Craig
Bryan Murphy
Chris Kiely
Gerard Troisi
Florence Sharkey
Joseph Woronowicz
David Johnson
John Dunne
Bill Pell
Arnold Leo
Dennis Connell

IN ATTENDANCE:

Lauretta Fischer
Jennifer Kohn
Michael Mule
Barbara DelGiudice
Gregory T. Greens
Keith Brewer
Robert Nuzzi
Ken Koetzner
Jenny Koetzner
Gregg Rivara
Debra Barnes
David Lessard
Philip Curcio
Jen Skilbred
John Kramer
Ted Bucci
Paul Matthews
Antoinette Clemetson
Gary Crowther
Christina Grahn
Wade Carden
Walter Zalak
Denise Civiletti

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THE CHAIRMAN: Good evening, ladies and gentlemen.

If you'll take your seats, we will commence.

I'm Larry Swanson and I'm the Chair of the Suffolk County Council on Environmental Quality, and I want to thank all of you for taking the time to come to this important, important hearing concerning the Shellfish Aquaculture Lease Program and Peconic and Gardiners Bay of Suffolk County.

I'll introduce the panel starting with Mr. Davies over here -- or Dr. Davies -- on my right.

MR. DAVIES: DeWitt Davies from Suffolk County Department of Planning.

MR. ISLES: Tom Isles, Director of Planning, Suffolk County Planning.

MR. BAGG: James Bagg, Suffolk County Council on Environmental Quality.

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THE CHAIRMAN: We're here to listen to your comments.

Consequently, there won't really be dialogue between anybody here at the panel and you unless it's to clarify comments that you have made and we don't quite understand.

We don't have too many speakers signed up so far, so if you desire to speak, please, make sure you sign up in the back.

We're going to give each speaker five minutes, and written comments will also be accepted if you don't choose to speak or if you don't get everything said that you needed to say.

I would request, for just common courtesy of everybody in the audience, that if you have a cell phone, to, please, turn it off.

So, with that, we will begin.

Each speaker should state their name and their affiliation for the

record, and we may ask you to spell it for our stenographer.

First speaker is Bob Wemus (sic), the town of -- from Huntington representing the North Shore Baymen.

MR. WEMYSS: Robert Wemyss.

THE CHAIRMAN: Wemyss. I'm sorry.

MR. WEMYSS: It's okay.

I looked through the DGEIS, and when you get to the subject of productivity determinations, you're doing a terrible thing. You designate an aquaculture zone without vetting.

You have side scan sonar information, an example of which is shown in -- in Peconic Estuary Program.

It shows a ring of shell in Orient Harbor and you have shell information throughout Peconics where you -- you show edge habitat.

And I'll describe edge habitat as

that area where the mud in the middle bays rises up to the shoal area and turns into harder bottom.

Every clam digger on Long Island knows that the edge is where the natural clams live. And you, basically, blacked out eighty percent of the Peconics without taking into account this type of habitat.

And the shell ring, the side scan sonar can't differentiate between live clams and shell.

You also have samples from that -- from that study in Peconic that show large numbers of juvenile hard clams. And you simply haven't vetted the habitat that you propose to lease.

The program has also decided to take the tact of ignoring the state's legislature's -- legislature's clear intent, which is to start a new leasing program by attempting to enable the layering of leases over

oyster grants that were illegally granted in the original that are proven to be natural shellfish beds.

Aquaculture technology's lawsuit which the county was involved in showed that in court documents. Yet, at a late date, you included that property now owned by Perrino (phonetic) as an aquaculture zone which is known to be a productive hard clam bed with the proof in that court case. That is, the proof that that defendant, in fact, dredged over a million dollars' worth of hard clams, of natural hard clams, off that property.

Now, you have similar grants all through Peconic Bay, especially eastern portion of Peconic Bay, that straddle the edge, which is the productive hard clam habitat.

The state legislature, the plain meaning of the law, did not anticipate that the county should

lease further rights to private grant holders. Nothing in that legislation suggests that the county has that authority.

You have not dealt with the productivity determination on a grant. Specifically, you have avoided the subject.

The whole proposal is dishonest in its intent. Because the large balance of acreage would be available to private grant holders who have not even used these lands.

These lands are worthless for oyster culture. The proof is they are not being used for oyster culture. Nobody in this estuary is doing broadcast planting of oysters on these grants.

Any grant holder who has and holds a permit to plant clams on an oyster grant has that permit by questionable authority because a court case on the subject said those

grants are for oysters only.

You have not contemplated what the impact of leasing those lands for other shellfish will be on those grant holders's ability to dredge natural hard clams from those grants.

Currently, they cannot without determinations from the state. But if they have a lease for cultivation of other species as others in the state do, it is very likely that the state will have no choice but to issue them permits that will allow them to dredge those natural hard clams.

And the vast majority of the acreage affected in this proposal is old grant lag. You propose six hundred acres in new grants and you cannot even tell us how much old oyster land would be subject. You don't know what's reverted, what's not reverted, what's latent, what's not latent. You have not disclosed

the scope of the project to the public, and the public has a right to know.

And you have ignored the fact that clams grow on edges, and these grants straddle the edge. That oyster commissioners met in dark rooms for eight years granting land before registering with the county board of supervisors when they were required to register every piece within ninety days. That these were not grants to individuals within the county. These grants all became incorporated prior to them ever being registered and consolidated by the likes of Blue Point's and Long Island oyster farms.

THE CHAIRMAN: Could I ask you to summarize, please?

MR. WEMYSS: That to continue with this project in its current form will be a violation of the public trust and ignore the naturally

productive lands which you have not vetted in any way by designating an aquaculture zone that covers nearly eighty percent of the Peconics and very productive existing oyster grant lands that have not been used for oyster culture in decades.

The program as its written is a farce and a travesty against the people of the State of New York.

THE CHAIRMAN: Thank you very much.

Charles Murphy.

MR. MURPHY: I have a petition here that twenty-five baymen have signed. Do you need that up there now?

While I'm walking up there, I'll give you a little rundown of my life.

I'm sixty-five years old. I've been clamming for about forty-odd years and I've seen what damage leasing has done to the public bottom.

But let's get back to what I'm really here for.

A couple years ago, we had pot-holers legal in New York State now. A hand digger can use a pot-holer to pull up a rake. That gives them the opportunity to work in fifty feet, thirty feet, sixty feet of water, anywhere in -- in the state waters.

To lease this bay bottom would be a travesty. Right now, New York State and the United States is running into a recession. A lot of people are being let go on certain jobs.

This would give opportunity for individuals, not just baymen or someone who's out of work, to find work on the water.

Like I've mentioned before, that I've been around and I've seen what these dredge boats do, how many clams they can produce in a day.

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I always say one dredge boat represents twenty-five baymen.

So, this area there that you're looking at has lots of hard clams on it. It could support quite a few baymen.

And, if you want to shoot some questions at me, go right ahead.

THE CHAIRMAN: I don't think we want to shoot questions at you.

MR. MURPHY: Okay.

THE CHAIRMAN: If you have further comments, you still have some time.

MR. MURPHY: Well, I just -- you know, I feel they have to look into this seriously and find out what dredges do.

I have an article here that -- within the National Fisherman, and in Maryland, they're banning hydraulic dredging in those waters. And I think the State of New York should do the same.

Thank you for listening to me.

THE CHAIRMAN: Thank you.

And, if you want to submit that article for the record, I'm sure we would appreciate it.

MR. MURPHY: Okay. I'll copy this and mail it to youse.

THE CHAIRMAN: Okay.

MR. MURPHY: Thank you.

THE CHAIRMAN: Thank you.

Karen Rivera (sic).

MS. RIVARA: Good evening. My name is Karen Rivara, R-I-V-A-R-A --

THE CHAIRMAN: I'm sorry.

MS. RIVARA: That's okay.

-- and I am the secretary to Noank Aquaculture Cooperative. I also sit on the ALPAC as an industry representative and I own an oyster grant. They're called generic oyster grants. We've had it since 1993 and we've planted millions of clams on -- and oysters and bay scallops on that property since that time.

The DGEIS, the nature is to look at economic impacts, not benefits. So, I would just like to summarize some benefits of the industry. And I also have a pamphlet that was produced by the University of Rhode Island that summarizes the benefits of the industry and also has a website that you can go to for more information.

But, essentially, the environmental benefits are that the shellfish we plant clean the water. The industry is sustainable. We're not taking -- we're taking animals that we have planted. We're not just taking. We're putting and then taking. So, we continue to plant after we've harvested and sustain the resource that way.

The shellfish remove nitrogen from the water and also stimulate diversity. Other organisms usually like to grow around shellfish farms

because of the structure and the animals that we place there.

Regarding this program, the scale in terms of new acreage is -- is negligible and, so, the impacts, therefore, would also be negligible. All the acreage that they're talking about is acreage that will be farmed. So, again, it's sustainable, it's where people are going to be planting and then harvesting shellfish.

And when I say the acreage is negligible, it used to have about four -- forty thousand acres that were farmed the middle of the last decade when the oyster industry failed because of the supply of sea oysters from Connecticut, those acreage went fallow.

But, currently, there are about, roughly, two thousand acres that are farmed and then there's another, roughly, four thousand that's fallow but available for oyster cultivation.

The people who have been farming out in the Peconics have been doing so without any concern in terms of environmental damage. That's, basically, what you're focusing on tonight. And, actually, people have seen benefits from what we do with shellfish setting up in adjacent areas.

The areas that are going to be added from this -- with this program would be, as proposed, thirty -- I'm sorry -- three hundred acres over five years, and then the possible conversion of five-acre assignments to ten-acre leases.

The leases that are being referred to on the oyster grants would be to cultivate species other than oysters. But, currently, those grants can be and are cultivated for oysters which are either planted on the bottom, just as the clams are, or they're cultivated in cages.

In addition to the environmental benefits, many of us who are in the industry are involved in projects that contribute to the restoration of the bay. We donate seed to towns, we work on environmental projects.

Our cooperative is in the process of developing a project where premium shellfish will be sold and the net proceeds will go to projects that benefit the bay, either research, education or land preservation projects. And that's not atypical for people in our industry.

The industry is also in the process of developing best management practices guidance, and we're doing that with some input from a major environmental group, so we do interact with other stakeholders.

We're very -- we're stewards of the land that we use. We're very concerned about the health of that land. We're farmers, so it makes no

sense for us to be otherwise.

So -- and there are a lot of new people coming into the industry. It does have a lot of opportunity for newcomers, so we want to make sure that people coming into the industry are aware of what the best management practices should be from an environmental and, also, a sociological standpoint.

I will also say that I don't believe that any other stakeholder group could really withstand the scrutiny of their industry as we have regarding the environmental impacts.

Certainly, there was no environmental impact study done when we decided to develop so much of the watershed for housing. And that, certainly, has had an impact on the water quality.

So, I think -- I'm, actually, very proud of my industry and I feel that we can withstand the scrutiny.

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THE CHAIRMAN: Thank you very much.

MS. RIVARA: You're welcome.

And I have these pamphlets.

And there's a website that you can access for more information, and I'll probably be giving you more written comments.

Thank you.

THE CHAIRMAN: Thank you.

Jim Markow.

MR. MARKOW: I'm Jim Markow. I represent Aeros Oyster Company.

I grew up on Long Island, worked for Blue Point's company and moved to Connecticut. I still own grants here in New York with my partner, Karen Rivara.

But it was very difficult for us to move our business along. And after Blue Point's company had closed, we had a brown tide problem there, things got very difficult for -- for us to survive there.

But when we had the storm in 1992 and it broke through an inlet there, the bay came back. It was great. I thought everything was going to do real well, and things got, you know, pretty good.

So, we had built a hatchery. I had a house over on the bay in Moriches and we were doing very well there.

But the problem that we had was we couldn't grow our business in New York because they're just so restrictive on everything that we wanted to do.

So, we had bought the grant in Gardiners Bay and planted oysters and clams, and we have done that for many years. And just the opposition, being able to do something with your own ground that you pay taxes on and, you know, have been taking care of made it very difficult.

So, I ended up going over to

Connecticut. And we have quite a few leases over there and we work with the towns, and we have a great relationship. We have a good recreational program that we work with the towns with.

What we do is, on some of the grounds that we lease from the towns, we give them a percentage of the seed. And they're able to have these recreational programs where people buy permits and they're able to go and work in these areas that are exclusive to them for recreational shellfish.

So, the one town that I work with primarily, they took in about eighty thousand dollars in just permit fees, so that pays for their waters, they're able to buy boats, they're able to do their water quality testing, and they have a great program. It's all self-supporting. They don't need any tax payer money

to keep it going, and it works great.

And I just can't understand why something that's so simplistic can't work in New York. And it's almost discouraging to think that with all the resources that are here, that you can't carve out niches to -- for each user group to have a piece of the pie.

It's not that aquaculture wants to take over the whole area. There's small, little segments of area that we want to use. It's a pinprick of use. But the amount of area that we're, you know, leaving alone is huge. It's a huge amount of area.

The small amount that we're going to use has such a great benefit with having shellfish being planted back there. Having the natural recruitment of having those oysters and clams planted there is almost like having seed sanctuaries located in different parts of the bay.

And without that, you may not get natural recruitment. This, at least, gives it an opportunity to come back naturally.

And I can't understand why -- you know, like the baymen look at it, well, like who's -- who's going to help them out?

We're going to help them out. Because the fact that we have areas there that are spawning and we do have a big amount of oysters or clams there, those are like having natural hatcheries all over the place.

So, you know, I don't really see it as a threat. I think it's a positive thing for them.

So, thanks for listening.

THE CHAIRMAN: Thank you.

Just for the record, you mentioned a town in Connecticut you're working with.

MR. MARKOW: I work with Town of Groton and almost all the towns east

of the Connecticut river.

THE CHAIRMAN: Thank you.

MR. MARKOW: We work with East Lyme, Waterford, most of those towns. And have had a great relationship with all the towns. And they're all able to be pretty successful.

THE CHAIRMAN: Thank you.

MR. MARKOW: You're welcome.

THE CHAIRMAN: Are there any more people wishing to speak?

MS. DELGIUDICE: Yes. I have more forms.

THE CHAIRMAN: Okay.

(Whereupon, the aforementioned items were handed to the Chairman.)

THE CHAIRMAN: Thank you.

MS. DELGIUDICE: You're welcome.

THE CHAIRMAN: Michael Craig, I guess it is.

MR. CRAIG: Hello. I'm Mike Craig. I have a temporary site from the State of New York.

I was a lobster man for

CEQ Public Hearing - April 17, 2008

twenty-two years and, unfortunately, the lobster business died and now I grow oysters at Peconic Bay.

I'm grateful for the State of New York to let me continue on, and I think the county is picking up, you know, where they left off.

And I see a lot of opportunity for growth. There is a lot of collateral benefits to growing oysters.

And I think you did a very good job with your map as far as where areas of cultivation are possible, and I think it should be supported and I encourage your efforts.

Thank you.

THE CHAIRMAN: Thank you very much.

Bryan Murphy.

MR. MURPHY: I'm Bryan Murphy, North Shore Baymen Association.

I just wanted to say that I dug clams out in Gardiners Bay for a

couple of years and, you know, there's plenty of wild clams there.

And I just don't think that it's right that you're going to allow people to put leases on these grounds and, you know, let them prosper and stop baymen from earning a living on wild clams.

That's all.

THE CHAIRMAN: Thank you.

Chris Keely (sic). Is that correct?

MR. KIELY: Kiely.

THE CHAIRMAN: Kiely.

MR. KIELY: Chris Kiely, North Shore Baymen's Association.

I also dug clams in Gardiners Bay for about five years.

Recently, this January, I went out there and, in about an hour and a half, dug a bag of clams. It's a very productive resource for the public and it should stay public.

That's it.

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THE CHAIRMAN: Thank you.

Gerard Troisi.

MR. TROISI: Gerard Troisi. Independent baymen.

I'd like to say that I am against the leasing of these areas. And, definitely, the state should assess what kind of shell stock is on that area before they give up the leases to somebody who, ultimately, is going to go there first and dredge those clams off the bottom. I mean that's a fact.

I don't care what they put down, they're going to dredge the natural shell stock that is there first.

Thank you.

THE CHAIRMAN: Thank you.

Florence Sharkey.

MS. SHARKEY: Good evening, fellows. My name is Florence Sharkey. I'm Brookhaven Baymen's Association president.

We totally oppose giving our

lands to anyone. It should be open to the public.

Our baymen have a resource out there and, if these men want to farm, then let them put the seed in first and leave the wild clam for the baymen.

But, no, they will take the wild clam and disappear in five to seven years.

We have trustees, and our trustees should keep this open for all baymen, fishermen, conchers, lobstermen.

You know, these men use these waters too, and why are we thinking about giving them up? This is land grabs from the golden times, from mining. You know, we're in the twenty-first century. We shouldn't be giving our lands away. These belong to the baymen. All different kind of baymen.

If they want to farm, we want

them to put the seed down and not farm them for five years.

Farmers seed their property. They don't take the wild.

Thank you.

THE CHAIRMAN: Thank you.

I know I'm not going to say this right. But Joseph --

MR. WORONOWICZ: Woronowicz.

THE CHAIRMAN: Thank you. You saved me.

MR. WORONOWICZ: Thank you.

You have to excuse me, I'm a little slow. I just had a mild stroke.

But what I'm thinking is you're giving away public land, or leasing public land.

Right now the tax payer in Suffolk County is paying to preserve land, preserve wild species.

Does anybody know what a mechanical dredge does or what it looks like?

You got two hoses like this pumping from -- from a big diesel engine, water under pressure blasting the bottom. You got a steal blade that goes underneath and cuts out the bottom. Anything there is blown apart or killed to whatever they set it, four inches, six inches, eight inches. You destroy the bottom.

That bottom has fauna, it has your estuaries are beginning, are all marine life in the ocean and the bays. Fish. You have a multi-billion-dollar fishing industry.

You wouldn't give away some private forest, a -- a preserve over here to somebody to come in and plow it up, destroy everything there and plant corn. You would have corn. You wouldn't have any other wild species.

What you're doing is giving away public land to be destroyed to

harvest, to plant clams or to remove the clams.

You wouldn't do it where people could see it done. Why do it on the water? Why, for whatever reason allow somebody to come in and destroy the natural habitat for everything that lives there? The plants.

I don't know. When the brown tide comes, you rip the plants out, where does the oxygen come from?

This is what it does. You blast it with a water pressure hose, you cut under it.

Out of all the maricultures, people of Long Island that were here at one time, there's only one left. All the rest of them went out of business. It doesn't last. It's like a one-shot deal for a certain period of time and it destroys the bottom.

Anything you do to the bottom is like if you tear down trees, you

destroy all your natural habitat, what's left? You plant potatoes, you get potatoes. You don't get anything else.

THE CHAIRMAN: Thank you. I appreciate you coming out.

David Johnson.

MR. JOHNSON: Hi. My name is David Johnson. I'm a coastal steward. I've been doing environmental restoration on Long Island for eighteen years. I've been involved with shellfish restoration for eight years and I work closely with Cornell Cooperative Extension and some of the people that have been in this room.

I would like to turn around and ask the baymen here, is the fishing as good as it was ten years ago?

UNIDENTIFIED SPEAKER: Is anything as good as it was ten years ago?

THE CHAIRMAN: Excuse me.

MR. JOHNSON: Do you think your rakes are doing any damage to the bottom?

THE CHAIRMAN: You should be talking to us.

MR. JOHNSON: I'm sorry. You're right.

I've been doing the shellfish restoration. The natural stocks that are, you know, in our waters right now are under a lot of stress from a number of diseases, over fishing, pollution, et cetera.

The strain of oysters that they use is the same oyster. It actually came from Oyster Bay.

There's a gentleman there from Flowers, you may have heard of him. He's, I guess, the one that everybody is talking about here that's still around. He almost got wiped out by these diseases.

What turns out is the only ones that he had left to use as spawners

were the only ones that survived. These are naturally disease resistant to the three diseases that are plaguing the whole east coast, the Gulf of Mexico.

We are down to one percent of the historical high of oyster population around Long Island right now. All right?

These oysters that I've been planting, I've released over two hundred thousand adult oysters into the Port Jefferson harbor alone.

I've been doing recent surveys at low tide, walking the beach and counting oysters, which are natural set and which are the strain that I'm talking about.

We have a genetic marker that just happened to happen with these oysters, and it's black stripes on them. So you know right away if you're successful, which is very beneficial to me in getting grants

and so on.

Seventy-two point five percent of the oysters in Port Jefferson now have black stripes. I've only been doing this seven years. Okay? And I've released a very small amount. Two hundred thousand oysters may sound like a lot of oysters, but it's really not. It's not.

If you had property or bay bottom leased and you're going to get a lot more than two hundred thousand oysters out there.

One of the other things you have to keep in mind here is that if they're putting down a lot of oysters, these oysters are filtering water. They're filtering -- adult oysters can filter up to fifty gallons a day of water. My little two hundred thousand are doing over ten million gallons a day. And you can think about how many millions of oysters these people that are trying

to scratch a living, trying to make a living. Some of them were former baymen on the wild and they gave up.

The future is not natural stock. The future is aquaculture and it puts a less strain on the natural stocks. It doesn't hurt them.

The baymen, I very sympathize with them. It's a tough life, it's a hard life, and it's getting harder every day.

The baymen that I know that I talk to, you know, they get a good year here and there. Just like anything in nature, you get cycles. Okay?

We have to -- the United States is so far behind the rest of the world as far as aquaculture, it's embarrassing. It's quite embarrassing. You just can't keep taking without putting something back. Okay? And that's my point.

I mean these people are good

stewards. They're trying to do the best. And a lot of stuff that they put down, you know, there's all kinds of things that grow on them. It's great habitat to juvenile fish because they have got, now, something to protect, something to hide in. Okay?

And that's pretty much all I have to say. Thank you.

THE CHAIRMAN: Thank you.

MR. WORONOWICZ: Can I answer what somebody said about using a rake?

THE CHAIRMAN: Let us get through the agenda and, if we have time, we might be able to come back.

John Dunne.

MR. DUNNE: Good evening. John Dunne. I'm just representing myself, and I want to step up as one of the few proponents in the room.

I don't want to beat a dead horse and repeat too many of the same

points, but the sustainability, the oysters are referred to as ecosystem engineers. In other words, they provide habitat and produce habitat, create habitat.

The gear that will be used in any sort of shellfish bottom culture acts as a -- it's own habitat and harbors juvenile fish and other juvenile shellfish.

Another point that I wanted to touch on, if there's bottoms out there that people are able to go out and in an hour and a half make a day's pay, these are considered productive bottoms. And those that have been paying attention to the leasing program know that these kinds of bottoms will not be leased. Productive bottoms are not going to be leased. And we're talking about six hundred out of a total of about a hundred thousand acres out there in the Peconic and Gardiners Bays. So,

it's a pittance.

Another gentleman mentioned something about a recession.

Well, there's a recession coming, so why don't we think about creating jobs? Which is just what this program would do.

You'd have folks going out there culturing shellfish, folks that would need to be creating gear for the shellfish growers to use and grow their shellfish in. You got boat repairs, gear repairs, gear production, et cetera.

And there is an economic multiplier to any industry. An economic multiplier for this kind of shellfish aquaculture is on the order of four to six. In other words, for every dollar spent in this industry alone, you get a residual four to six dollars out in the residual economy. So, it is an economic boost.

And that's about it. That's it

for me. Thanks.

THE CHAIRMAN: Thank you.

Bill Pell.

MR. PELL: Bill Pell, Southampton. I'm an oyster farmer. I'm representing myself and also East End Marine Farmers. It's a group of oyster farmers on the east end, north and south fork.

I have lands in Southold and also in Southampton Town and also get -- my seed is grown in Riverhead Town out of East Creek.

A lot of people don't understand aquaculture. You could hear all the bad parts, all the good parts. I'm just going to tell you what I know about it.

Our gear is all plastic, it's nontoxic to the water. We don't tar it, we don't dip it, we don't use tar nets. It goes on a bottom. It does not hurt the wildlife at all. It, actually, brings more wildlife to the

area. It's like a barrier reef.

When you have oysters there, you're going to have scallops come alongside of them because scallops love to live with oysters.

I think the scallops actually eat the byproduct of the oysters. Because I grew scallops. I had a hard time keeping them alive during the winter. But I found out if I kept the oysters and the scallops together, they lived fine.

You get eels there, you get toadfish, you get crabs, you get baby black fish, you get porgies. And, actually, if you put the gear in the bay, you will actually bring more fish to the area.

People worrying about you're going to cover the whole area. You're only talking about six hundred acres out of a hundred thousand acres.

The stuff is going to spawn

there. So, actually, you are helping the environment by bringing more oysters and other stuff into the area.

The fisherman can go fish alongside of it.

Right now where I have my gear, there's a lot of striped bass there in the summertime. The sport guys go there fly-fishing every night, catch baby blues, baby stripers. They love it.

And there's more up side than down side to the whole thing. You are worrying about ruining the bottom. You're not going to ruin the bottom. It's off the bottom. Even if you bottom plant, it's fine.

The new areas, you're not going to be -- most likely you're not going to be hydraulic dredging on. The old leases are permitted but it's a small fraction of that.

And it's a no win situation. You

do more harm by not letting this program go ahead and do it. The people who are complaining, they're going to lose big time because there's not going to be any oysters, no clams, no scallops, no fish in the whole area. You're going to have a dead bay.

What? Are you going to have a petting zoo? You want to go to Atlantis to see seafood? That's where you're going to go.

Thank you very much.

THE CHAIRMAN: Thank you.

Arnold Leo.

MS. LEO: Hi. Thanks. Arnold Leo. I'm secretary of the East Hampton Baymen's Association. I'm also consultant for commercial fisheries for the Town of East Hampton and I am a member of ALPAC, the Aquaculture Lease Program Advisory Committee. And I'm going to just make three comments tonight.

This DGEIS is a fairly complex document and I can't pretend that I've read all of it yet. But let's start on Page 232 under an item called Restrict Harvest Methods.

It's stated dredging would only be permitted to harvest aquaculture stock and not natural stock.

So, I've been wondering where the hydraulic dredge is that's intelligent enough to know which is natural stock and which is cultured stock, you know? Because I think if you run a hydraulic dredge, it's going to just take up anything that's there.

So, I think that my problem here is that so far the advisory committee has not discussed the issue of hydraulic dredging at all and I, therefore, am requesting that that be put on the agenda of the advisory committee.

Now, on sizes of leases, you

know, on page 286, under Limit Lease Size, it's stated the rationale for overlaying leases on the entire acreage of an oyster grant is that they are permitted by law to bottom culture oysters.

Now, this -- this, legally, is a problem because some of these oyster grants are, you know, over three hundred acres.

And what this is saying is that, you know, under the county lease program, you're, simply, going to allow someone with a three-hundred-acre grant to overlay the lease program on all three hundred acres.

That -- that's not acceptable. And we have to address that further because that, clearly, is not the intention of the lease program where the most leases will be owned in five or ten acres in size.

So, this provision for the oyster

grant lands are allowing, you know, lease program sites of over three hundred acres in one shot, and that has to be addressed and corrected.

Finally, on Page 51, there's an item called Documentation of Natural Nonproductivity of Proposed Lease, which doesn't make any sense to me. But what it is saying here is that -- basically what it says is that if someone is going to challenge a proposed lease site, they have to document that there is productivity on that lease site in order to prevent the lease from going through. And they have to perform what is called a -- you know, a field Benthic survey. Now, that's a pretty expensive, you know, operation, doing that kind of Benthic survey to prove productivity on a particular site.

And, so, what I want to propose -- and I know we have to discuss this further -- is that, you

know, if someone challenges an applicant for a lease and says that that site that the applicant wants is productive, then I think, you know, there has to be a Benthic survey done.

And if the Benthic survey shows that, indeed, the site is, you know, productive, then the applicant should pay for that survey.

But if, indeed, the survey shows that that land is fallow and unproductive and there's no good historical record to show that it was, indeed, you know, productive scallop grounds when we had widespread scallop populations, if there's neither, you know, evidence from a Benthic survey nor, you know, reliable historical evidence of productivity, then the challenger should pay for the survey.

Thanks.

THE CHAIRMAN: Thank you very

much.

Do we have any other speakers?

There was a gentleman that wanted to clarify about raking, I guess.

I'll allow you to do this, but there is not to be a dialogue between you and anybody in the audience.

Would you repeat your name again, please?

MR. WORONOWICZ: Joseph Woronowicz.

If you drop an anchor to the bottom, anything you to do the bottom causes some damage, leaves a footprint, whether it's a rake, an anchor.

But if somebody plows the land -- but there's a difference between using a plow and using a combine. I'm saying the amount of damage you do to the bottom, running over it with a mechanical dredge versus what a rake does, like I said, you're pumping deep water through hoses this

much, undercutting the bottom with steal blades, running over it back and forth, back and forth, versus what a rake does.

Rakes have been used for hundreds of years. The only thing that destroyed raking in South Bay is the water quality. Otherwise, the clamming would be just as good as it was.

THE CHAIRMAN: Thank you.

All right. Last call for anybody that wants to speak.

MR. MURPHY: Just one more thing.

THE CHAIRMAN: Okay. Quickly.

We need your name.

MR. MURPHY: Charles Murphy, North Shore Baymen's Association.

Some people like to believe that the baymen don't believe in aquaculture. We do believe an aquaculture.

The Town of Huntington, we take half of our fees for our licenses,

put it to growing seed and putting them out in the wild.

The Long Island oyster farms have left Huntington, it's been about eighteen years now, and the first five years or so they left, there was nothing.

Now, with the help of our town and the fees from our licenses, we're buying clams from the Flowers in Oyster Bay and we're putting out seed and it's put out there for the public.

We would like to see more of that done throughout the whole state. We're not against aquaculture if it's for the public.

Thank you.

THE CHAIRMAN: Thank you.

Dennis Connell.

MR. CONNELL: My name is Dennis Connell from West End Baymen's Association.

We had many discussions with

DeWitt Davies. He was supposed to do surveys before he allowed certain areas to be designated for leases.

And, apparently, according to this gentleman over here, it's going to be nonexistent, they're going to let the leases go through without the surveys to tell you whether the bottom is productive or not.

Like Charlie said, you know, we're in favor of aquaculture. The state has a program already and the program seems adequate. There are plenty of people filing for those assignments.

But to lease out the bottom that belongs to the public is not right. It shouldn't be done.

That's all I have to say. Thank you.

THE CHAIRMAN: Thank you.

Once again, last call.

If not, we will declare this hearing a success, and I thank all of

you for coming out and for participating.

So, have a good evening and I'm sure you'll see responses to your comments in upcoming revisions to the document.

(Whereupon, the hearing was adjourned at 7:46 p.m.)

* * * * *

C E R T I F I C A T I O N

I, Cheryl A. Ferrelli, hereby certify that the above and foregoing is a true and accurate transcription of my stenographic notes.

CHERYL A. FERRELLI
Senior Court Reporter

APPENDIX

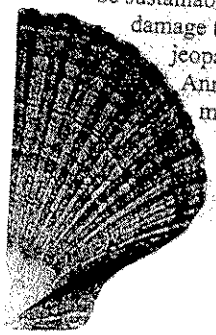
Written Statements Submitted:

Appendix A - Pamphlet from the East Coast Shellfish Growers Association submitted by Karen Rivara.
Appendix B - Baymen's petition submitted by Charles Murphy.
Appendix C - National Fisherman, May 2008, "Maryland dredging ban closes out bay clammers," article cited by Charles Murphy.
Appendix D - Robert M. Wemyss, letter dated April 17, 2008.

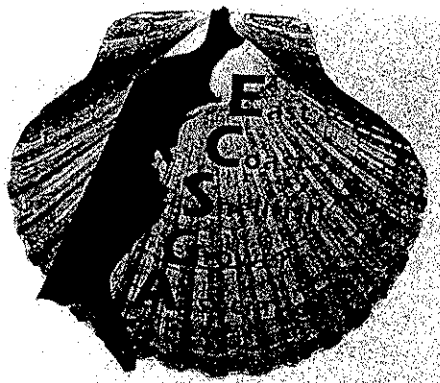
Shellfish Farming is Sustainable

- *Shellfish filter microscopic plant cells from the water column.*
- *Shellfish feed low on the food chain.*
- *No fertilizers, feeds, herbicides, drugs, chemicals, or antibiotics are used.*

Shellfish aquaculture has proven to be sustainable because it does not damage the environment or jeopardize future productivity. Annual harvests are made possible by replanting hatchery-reared seed.



An oyster farmer tends his crop at low tide.



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Toms River, New Jersey 08755
For more information please visit our website:
www.ECSGA.org

This pamphlet was financed by the Rhode Island Aquaculture Initiative and Rhode Island Sea Grant

Sea Grant
Rhode Island

Did you know?

Shellfish Aquaculture is GOOD for the Environment !

- *Filter-feeding shellfish improve water quality.*
- *Shellfish farming provides habitat for fish and improves species diversity.*
- *Shellfish aquaculture is sustainable and good for the environment.*

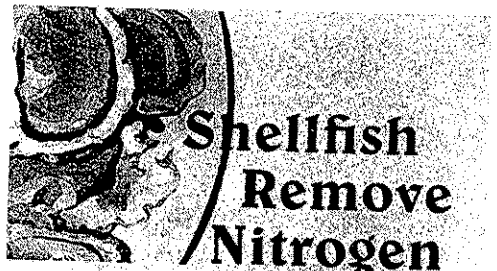
APPENDIX A

Shellfish Clean the Water by Filter Feeding

- *A single oyster can clear over 15 gallons a day, retaining particles as small as 2 microns.*
- *A small oyster farm in Narragansett, RI clears 30 to 100 million gallons each day.*

✔ Reduces turbidity
✔ Improves light penetration
✔ Improves water quality
✔ Reduces anoxia (low oxygen)

Shellfish improve water quality as they feed by filtering microscopic particles from the water. This removes problematic sediments and phytoplankton and their associated nutrients. Some of the nitrogen is incorporated into protein and the rest is deposited on the bottom, where it can be consumed by worms and other organisms.



Shellfish Remove Nitrogen

- *Shellfish remove microscopic plants as they feed.*
- *Nitrogen contained in shellfish tissues is removed when animals are harvested.*
- *Shellfish feeding stimulates denitrification.*
- *Improved light penetration and reduced nitrogen help eelgrass recover.*

Photo courtesy of Jerry Prezioso

As both water clarity and light penetration are improved, the eelgrass is able to recover in waters that have not supported seagrasses for decades. Clearly shellfish aquaculture should be an element of any eelgrass restoration project.

Shellfish Aquaculture Stimulates Diversity

- *Recent studies reveal that shellfish aquaculture can improve species abundance and diversity.*
- *Shells and aquaculture structures provide habitat for juvenile fish, crabs and other organisms.*

Cultured shellfish have gotten a thumbs up from environmental groups such as **Environmental Defense**, the **Chefs Collaborative's** *Seafood Solutions*, and others. These groups work to steer consumers towards sustainably harvested seafoods. Oysters are a *keystone species*, meaning they control the environment in which they live by cleaning the water, while the spaces between their shells provide habitat for juvenile fish, crabs, and the organisms on which they feed.

APPENDIX A

APPENDIX B

BAYMEN'S PETITION AGAINST LEASING EDGE SHELLFISH HABITAT IN GARDINERS BAY AND PECONIC BAY BY SUFFOLK COUNTY

The primary habitat for hard clams in open bays is on edges where softer middle bay bottom rises up to harder and tighter bottom types. These edges are typically between twelve and forty feet deep and usually show on charts as a tightening of the depth contour lines, often with the bottom type transition noted. Edges are the bread and butter of deep water baymen and they produce hard clams year after year, while they may not get a set each year they almost always have several year classes of hard clams growing on them at any given time. This edge habitat itself is a public resource that should not be privatized by leasing. It would also be inappropriate for the County of Suffolk to convert assignments, or layer Oyster Grants with leases that would privatize edge habitat which. A significant buffer zone on either side of the edges in the cultivation zone should be protected as public shellfish habitat.

Name	NYS Permit Number	Signature
John Munno	12099	
William Dominski	8623	
Scott Hogan	1985	
Daryl Pedyo	17381	
Dan Crowe	8025	
Charles Murphy	10988	
Sean P Murphy Jr	15433	
Joann & Walter Zalak	7896	
WALTER + MILLIE ZALAK	17381	

APPENDIX B

BAYMEN'S PETITION AGAINST LEASING EDGE SHELLFISH HABITAT IN GARDINERS BAY AND PECONIC BAY BY SUFFOLK COUNTY

Name	NYS Permit Number	Signature
James J Wulfert	3085	
Neal Donnelly	16086	
Ronald Pickerell	329	
Keith Kressman	15423	
Robert Beck	9792	
Philip Beck	10564	

APPENDIX B

BAYMEN'S PETITION AGAINST LEASING EDGE SHELLFISH HABITAT IN GARDINERS BAY AND PECONIC BAY BY SUFFOLK COUNTY

Name	NYS Permit Number	Signature
Gary Kowal	20023	
Raymond Hartman	27879	

APPENDIX B

BAYMEN'S PETITION AGAINST LEASING EDGE SHELLFISH HABITAT IN GARDINERS BAY AND PECONIC BAY BY SUFFOLK COUNTY

Name	NYS Permit Number	Signature
Bryan Murphy	16008	Bryan Murphy
Scott [illegible]	21633	SCOTT [illegible]
Chris Kiehn	6311	Chris Kiehn
Louis Puca	NSB	Louis Puca
Tim Kiehn	NSB	Tim Kiehn
[illegible]	4/14	
[illegible]		
Todd Kokell	NSF 7311	Todd Kokell
Jeff Nekola	27158	Jeff Nekola

National Fisherman
Incorporating ALASKA FISHERMAN'S JOURNAL
MAY 2008
INFORMED FISHERMEN • PROFITABLE FISHERIES • SUSTAINABLE FISH

Maryland dredging ban closes out bay clammers

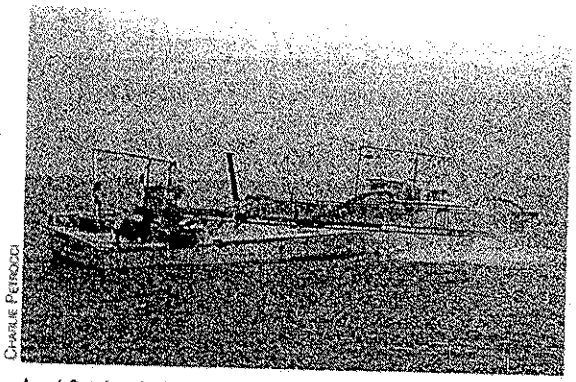
Bill proposes compensation for boats, gear

A bill passed by the Maryland General Assembly to ban hydraulic clam dredging will go into effect in October.

For as long as anyone can remember there has been winter clam dredging in Maryland's coastal bays. Though only a handful of watermen continue the practice, the methods used to harvest the hard clams has come under scrutiny by both environmentalists and sport fishermen.

"Though I support the local seafood industry, those clam dredges are hell on the bay's bottom," says angler Chuck Johnson of the Ocean City area. "They scar it with big trenches, which can't be good for other fish and sea life."

But commercial dredgers like Gary Tull, of Crisfield, have spent a good part of their lives clamming the back bays and making a living from it. Tull was quoted recently in the *Daily Times* of Salisbury, Md., as saying, "This is all I've known and all I've ever done."



CHARLIE PETROCCI

As of October, hydraulic dredging gear, seen here in Chincoteague Bay, will be a relic among Maryland watermen.

He isn't sure how he will fill in the economic gap after October. Some push clam aquaculture instead, but regulations and recent opposition from local land owners have limited the prospects in Maryland's coastal bays.

Clammers recently found support from Sen. Richard F. Colburn (R-Eastern Shore), who sponsored a bill to compensate them for the cost of their boats and rigs when their jobs are excluded.

"Whether it be five or 10 or several hundred, the General Assembly is obligated to compensate those that are put out of work by our legislation," says Colburn. "We are supposed to be business-friendly and create jobs, not necessarily putting people out of work." If the compensation bill fails, Colburn will try a separate bill moving the dredging moratorium back one more year. — *Charlie Petrocci*

APPENDIX C

APPENDIX D

North Shore Baymen's Assn., Inc.
62 Oldfield Rd.
Huntington, New York

April 17th, 2008 For OGEIS

SUFFOLK COUNTY SHELLFISH AQUACULTURE COMMITTEE

Having reviewed the committee's most recent draft proposal, we have come to the conclusion that the committee has departed from its legislative mandate and is acting in the service of individuals and private companies.

When the New York State legislature passed the enabling statute, it did not authorize Suffolk County to lease underwater land that is naturally productive. The legislature did not exempt Oyster Grant Lands (OGL) from the substantive provisions of the statute that protect underwater lands that are capable of supporting significant commercial hand harvesting activity. The legislature did not authorize Suffolk County to lease underwater land currently held as oyster grants.

Always follow the money, keep your eyes on the actions of those who stand to profit.

The oyster grant lands in Gardiners and Peconic Bay are in many cases old growth clam beds that have been open to the public for decades. This is because many of them have not been used for any type of cultivation for decades: unmarked and unused. These lands have been the subject of recent speculative consolidation by members of the committee. The speculation is that the OGL will be eligible for leasing by the owners, and that these owners would eventually be able to hydraulically dredge these old growth clam beds. This has become the primary drive of certain committee members, and it appears that the committee has been co-opted by the individuals who stand to profit the most. The fact is that the committee has allowed OGL owners to drive the committee's agenda.

What value would be conveyed to holder of OGL with the committee's current proposal? OGL holders will be gifted an absolute right to lease the natural old growth clam beds on their grant land, effectively converting to ownership these clam beds creating an exclusive right of fishery for the state owned clams which abound there.

APPENDIX D

It cannot have escaped the committee members that under the present proposal the leases available to the public in ten acre plots will be dwarfed by those gifted to current OLG holders.

One thing court records make clear about Oyster Grant Lands is that any grants issued prior to the 1906 amendment were illegally granted if they are for more than 25 acres. For this reason alone their use should never be expanded. The commissioners who granted them were run out of office for illegally granting productive lands. The court that made landmark decision in the case of Suffolk County v. Edwards, 148_N.Y.S. 305; 86 Misc. Rep. 283 determine in its findings of fact:

"Fourteenth: ***That contrary to the statute in such case made and provided, the said Commissioners of Shell Fisheries did not bring the said applications to the attention of the Board of Supervisors of Suffolk County, and that said Commissioners and said Board, or a committee thereof, did not hear and pass upon said objections, and did not determine that the said land so applied for by either of the said applicants was of an area of not unreasonable extent and did not direct the Clerk of the County of Suffolk to sell the lands so applied for at public auction to the highest bidder; and that no attempt was made by the said Commissioners of Shell Fisheries to comply with the law applicable to said applications; that Chapter 385 of the Laws of 1884 of the State of New York permitted the conveyance of only four acres of oyster ground under the waters of Gardiner's Bay or the Peconic Bays to one applicant; and that Chapter 916 of the***

APPENDIX D

Laws Of 1896, amending said Chapter 385 of the Laws of 1884, permitted the granting of no more than twenty five acres of such ground to one applicant; and that the only authority for conveying more than twenty five acres of said ground to one applicant, assuming that said ground has not been set apart and can be legally conveyed in an amount, is Chapter 640 of the Laws of 1906, which the defendant attacks as unconstitutional."

FIFTEENTH: That the defendants Everett J. Edwards, Clarence C. Cartwright and Edwin D. Tuthill, individually and as Commissioners of Shellfisheries, did not act in good faith in making the said attempted conveyance hereinbefore set forth, but acted in ignorance of the law governing their actions as such the commissioners and in defiance and contempt of its provisions".

When the State of New York took Aqua Culture Technologies to court for illegally dredging natural hard clams, the Attorney General refused to use the Edwards case. The only possible reason for not using that case was that the New York State Department of Conservation (DEC) knew that this would highlight the fact that it had been illegally issuing permits that allowed uses other than oyster culture on OGL to various parties for some time. The only proper course of action for the DEC would be to simply deal with the repercussions of rescinding all permits that allowed non-oyster activity. Instead they continued to permit these activities in clear contravention of the law. ***"There has always been a natural abundance of other shellfish such as clams and scallops...It is also to be observed that the act of 1884, if considered as a grant, is to be construed strictly in favor of the state, and that it was explicitly 'for the purpose of oyster culture' alone...There is clear distinction between grants of private property for private***

purposes and secessions of public properties for governmental purposes. To these lands underwater the right and title of the state was sovereign not proprietary. The state held the title of the people for the common benefit and to promote the public convenience and enjoyment of the natural beds. All the state had to cede and all the county took by the act of 1884 was the title held for government purpose" Suffolk County v. Edwards, 148 N.Y.S. 305; 86 Misc. Rep. 283

It is important to note that once Judge Kelby rendered this decision, any leeway the DEC and the County of Suffolk had with regard to interpreting the statute was suspended. It is role of the courts to interpret the statute and the role of the DEC to act according to the court's interpretation. In this case that interpretation cannot possibly lead one to conclude that the DEC has any authority to expand use of OGL beyond oyster cultivation, regardless of how they try to craft their policy. This was the sentinel case directly on point to guard the public's right to the enjoyment of the natural beds.

The effect of the DEC illegally allowing other shellfish to be cultivated on oyster grant lands has been to increase the value of private property that might otherwise have reverted to the public as the statute lays out. When land is no longer used for oyster culture, it reverts to the public. Private holders of OGL that have invested in cultivating species of shellfish other than oysters may in fact be damaged by having their permits rescinded, but the DEC never had any legal right to issue those permits in the first place. The OGL holders never owned anything but a right to cultivate oysters and oysters alone.

The DEC has sought to limit the states liability for issuing permits that were beyond its authority. That is understandable given the long history of collusion between DEC Suffolk County and oyster companies. Suffolk County issuing old growth clam bed leases to OGL holders would conveniently bail out the DEC at the expense of the law and the public right to the natural beds.

The proposed draft program recommends putting the obligation of determining the productivity of land on the public:

"14. *Documentation of Natural Non-Productivity of Proposed Lease –If, during the application public comment period, comment is received indicating the presence of significant natural productivity on the proposed lease site,* ~~*Prior to*~~

~~*issuance of a lease on lands not currently used for aquaculture,*~~ *the applicant must provide documentation that the subject land does not presently support a productive natural shellfish stock. The County will identify what will be considered adequate documentation of the status of natural shellfish stock; such documentation may include, but not be limited to, a field benthic survey of the underwater land. The County will identify what is considered a significant shellfish stock."*

What is "not be limited to a field benthic survey" supposed to mean? Where is the committee's obligation to the public?
The law requires the determination that land offered for lease is not productive. The law is does not authorize leasing of productive land as long no one objects. At the very minimum a complete benthic survey needs to be performed with a full report conducted on behalf of the County at the expense of the applicant. It is the County of Suffolk that is responsibly under the law to certify to the public that the land it proposes to lease is not capable of supporting significant hand harvesting activity. There must then be a minimum 60 day public inspection period to allow the public to rebut the claim of non-productivity. That "claim of non-productivity" is no mere formality; it is the event in the process where the greatest conflict of interest exists. Objective criteria must be developed and applied. That 60 day period must be extended if extreme weather conditions or other extenuating circumstances prevent public inspection.

If the committee was really about the business of promoting aquaculture, it would designate modest cultivation zones in areas known to be non-productive. Has the committee scrapped the blue zone? Is the idea to make the entire Gardiner Peconic Bay system a cultivation zone? There is an obligation to determine where there is significant hard clam habitat; that habitat is meant by law to be protected from leasing. We have seen nowhere in the committee paper work a discussion of specific hard clam habitat. The idea is not to create the appearance of transparent government but actually to engage in transparent government.

The temporary assignment program is mischaracterized in the scoping document. The temporary assignment program was designed with particular safeguards for public access to the natural shellfish beds. This was repeated to me by DEC personnel on many occasions. I particularly remember telling Josh Thiele how I felt applicants were being granted temporary assignments on

edges that were primary hard clam habitat; he dismissed my concerns. My point then was that it was poor policy to grant temporary assignments in areas where the underwater topography make hard clam abundance likely. My point now is that the assignments on the edges in Gardiners and Peconic Bays should not be considered for conversion to leases. The DEC had no obligation at the time to certify that these areas were nonproductive, and they ignored and dismissed the suggestion that the assignments not be granted on edges.

The committee is designing an aquaculture program that will be a land grab for the naturally productive hard clam habitat that it is bound by law to protect. Blanket designation of aquaculture zones without ground truthing is an abuse of the authorizing legislation. The whole point of designating aquaculture zones was to put the question of natural productivity to rest to protect public access to the natural beds. Instead the committee spends its time crafting ways to avoid its duty to do the actual physical work. This is disappointing but not surprising. Every act for granting, leasing or otherwise alienating public land for shellfish cultivation in Suffolk County has always been a land grab for naturally productive underwater land. Huntington and Islip leases and the nefarious Blue Point Smith Patent were all naturally productive underwater lands, sold out from under the public by corrupt politicians and forwarded by judges and courts by deals made in Country Clubs. These oyster lands are part of one of the most corrupt land grabs in Long Island history - remnants of Blue Points and Long Island Oyster Farms clam cartel, and it is an insult that these illegally granted lands would even be considered for inclusion in any leasing program.

Robert M. Wemyss
Secretary, NSBA

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Appendix D
Draft Generic Environmental Impact Statement
Written Comments

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TOWN OF EAST HAMPTON
FISHERIES CONSULTANCY & COMMITTEE

159 Pantigo Road
East Hampton, New York 11937

ARNOLD LEO
Consultant

BRUCE HOEK
Chairman

Tel: (631) 324-3187
Fax: (631) 324-6280

April 3, 2008

DeWitt Davies, Chief Environmental Analyst
Suffolk County Dept. of Planning
P. O. Box 6100
Hauppauge, NY 11788

Dear DeWitt,

With reference to the document dated April 2, 2008, entitled "Preliminary Draft Suffolk County Shellfish Aquaculture Lease Program Administrative Guidance," please accept the following comments for the record.

On page 7, under "Site Review/Ground Truthing," when an individual claims a potential lease site has sustainable wild stock, it is unreasonable to require that individual to conduct a "benthic survey" to prove the existence of the wild stock. To do such a survey that would be scientifically acceptable would require the services of a qualified marine scientist. Otherwise, I could get a buddy to testify that he has surveyed the site on 5 different days and always got 300 clams an hour, no? Some other means needs to be found to ascertain the productivity of a proposed lease site. It would seem adequate to require the notarized statements of at least three people who state that they harvest economically significant amounts of wild shellfish from the proposed site. If a dispute between the protester(s) and the lease applicant ensues, perhaps the County will have to pay for the "benthic survey."

Next, at the back of the above-cited document there is another document, entitled "Suffolk County Shellfish Aquaculture Lease Program—Proposed Program Components (Working Draft March 20, 2008)." On page 2, item number 3 ("Sizes of Leases"), it is stated that the lease size limits of 5 or 10 acres "do not apply to private oyster grants." This statement is in conflict with the statement about lease sizes which appears in the DGEIS dated March 19, 2008. On page 49 of the DGEIS it states that the limits "do not apply to *active* private oyster grants [italics added]." There very definitely needs to be clarity about this issue, because as we discussed after the April 2 ALPAC meeting, to allow oyster-grant owners to convert all of their grant lands to the County's lease program would (1) allow aquaculture activities in well-established productive fishing areas; (2) create havoc where the grant lands are in navigational waters; and (3) destroy any support the lease program might otherwise find in the baymen's community.

Sincerely yours,
Arnold Leo, Consultant

TOWN OF EAST HAMPTON
FISHERIES CONSULTANCY & COMMITTEE

159 Pantigo Road
East Hampton, New York 11937

ARNOLD LEO
Consultant

BRUCE HOEK
Chairman

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April 17, 2008

To: DeWitt Davies, Chief Environmental Analyst
Suffolk County Dept. of Planning

From: Arnold Leo
Consultant for Commercial Fisheries, Town of East Hampton

Re: DGEIS, Shellfish Aquaculture Lease Program in Peconic Bay and Gardiner's Bay

4.1.3.6 **Restrict Harvest Methods** (p. 232). It is stated: "Dredging would only be permitted to harvest aquaculture stock, and not natural stock." If natural stock exists on the lease site, then the lease should never have been granted since productive areas should not be available for leasing. However, let's say some natural stock does exist on a lease site that is created out of an established oyster grant, please describe the hydraulic dredge or patent tongs that are capable of distinguishing between wild and cultivated stock. The subject of permitting hydraulic dredges on land leased through the County's program has not yet been discussed at any meeting of the Aquaculture Lease Program Advisory Committee. *The subject of hydraulic dredging should be addressed as soon as possible at an ALPAC meeting.*

2.6.3 **Size of Leases** (p. 49). It is stated: "Leases on underwater lands not currently used for aquaculture will be 5 or 10 acres (these limits do not apply to active private oyster grants or temporary assignments)." At 2.6.27 **Lease Establishment on Grants** (p. 53), it is stated: "Owners of grants can apply under the County Lease Program to overlay a lease on the entire grant area, or a portion thereof." Then in 4.2.3.3 **Limit Lease Size** (p. 286) it is stated: "The rationale for overlaying leases on the entire acreage of an oyster grant is that they are permitted by law to bottom-culture oysters." Some owners of oyster grants have got DEC permits to raise shellfish other than oysters on their bottomlands, in some cases on all of the land in the grant, in other cases on only a portion of the grant land. *The County Program should not allow the overlaying of the lease program on grant lands that are not currently permitted by DEC to culture shellfish other than oysters.*

2.6.14 **Documentation of Natural Non-Productivity of Proposed Lease** (p. 51). It is stated: "The County will identify what will be considered adequate documentation of the status of natural shellfish stock; such documentation may include, but not be limited to, a field benthic survey of the underwater land." The question here is who pays

to provide a "field benthic survey," obviously not an inexpensive endeavor. It may be that the County will have to provide these benthic surveys in cases where a lease applicant is challenged by interested parties who claim that the proposed lease site is productive fishing ground. If the County does pay for these surveys, and the lease sites proves to be productive, the lease applicant should repay the County for the survey. If the site proves to be unproductive, the challenger should repay the County for the survey.

2.6.10 **Marking and Surveying of Lease.** It is stated: "Lease sites must be surveyed by a licensed land surveyor prior to execution of the lease." This leaves unanswered the question of who pays for the survey, an expensive undertaking. It has been suggested that the County pay for the survey, in an effort to encourage the development of the leasing program. If the County pays for the survey, then some percentage of the fee paid to the County by the lease holder should be devoted to repaying the cost of the survey. This way the expense can be repaid over the course of 10 or 12 years. It is to be remembered that the lease holder has been granted exclusive use of public bottomland for private profit, and therefore should be financially responsible for the cost of the survey.

WINERGY POWER

2008 APR 15 AM 9:50

April 14, 2008

DeWitt S. Davies, Ph.D.
Suffolk County Department of Planning
H. Lee Dennison Building, 4th Floor
100 Veterans Memorial Highway
Hauppauge, New York 11788

Re: Winergy Power, LLC

Dear Mr. Davies:

We write this letter to you to request that Suffolk County include the premises of our lease with the New York State Office of General Services in the leasing program that Suffolk County is in the process of implementing for shellfish cultivation in Gardiner's Bay.

By way of background, our predecessor, Mariculture, entered into a lease of underwater lands with the New York State Office of General Services for the cultivation of various types of aquaculture in 1997. The premises are located off the eastern coast of Plum Island in Gardiner's Bay, as demonstrated by the map attached hereto. The term "aquaculture" is defined and is read to include shellfish, although shellfish are not expressly listed in the definition. In 2002, Mariculture assigned all its rights and interests in the lease to Winergy. In 2002, Winergy renewed the lease. The New York State Office of General Services considers the lease to be valid and in effect, and Winergy has been duly paying the rental fees under the lease to such agency, although future aquaculture operations will be carried out by Gardiners Bay Seafood.

While there have been a number of state laws relating to Gardiner's and Peconic Bays in Suffolk County, the most recent law enacted by the New York State Legislature for this area and relating to shellfish occurred in 2004. Chapter 425 of the Laws of 2004 ceded all lands under water in Gardiner's and Peconic Bays to Suffolk County in order to provide Suffolk County with the opportunity to institute a lease program for shellfish cultivation. The 2004 law provides that Suffolk County's authority to lease such lands shall terminate if no lands are leased for shellfish cultivation by

Winergy Power LLC, 150 Motor Parkway, Suite 425, Hauppauge, NY 11788-9998
Phone: 631.434.9100 Fax: 631.239.6686 1.800.380.5950 www.winergyllc.com

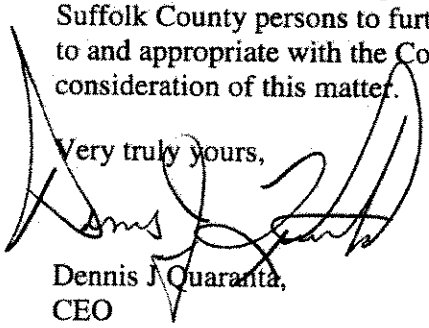
December 31, 2010. The law also provides that lands ceasing to be used for shellfish cultivation shall revert to the state.

As you may know, the County of Suffolk is undergoing a process to establish its lease program for shellfish cultivation. As part of that process, Suffolk County has drafted maps that identify which areas of Gardiner's Bay will be leased by Suffolk County for shellfish cultivation. While the leased premises of Winergy were initially on such maps, more recent maps have excluded the Winergy leased premises. It is our understanding that the reason for the exclusion of various lands from the current version of the leasing program is that there were too many conflicting claims to the rights to those lands. However, because Winergy possesses an exclusive lease with the New York State Office of General Services for its premises, Winergy Power does not understand how there can be any reasonable conflicting claims with its rights to the premises it has leased from the New York State Office of General Services. Thus, Winergy respectfully submits that the rationale for excluding land generally from the current version of the leasing program does not apply to its leased premises.

Accordingly, Winergy Power respectfully requests that its leased premises be reinstated in the maps of authorized areas of the leasing program under review by Suffolk County. This request is especially compelling given the pre-existing lease Winergy Power has with the New York State Office of General Services to conduct aquaculture.

We would greatly appreciate a meeting with the appropriate Suffolk County persons to further discuss this matter, if that would be helpful to and appropriate with the County. I thank you in advance for your consideration of this matter.

Very truly yours,



Dennis J. Quaranta,
CEO

cc: Hon. Christine Malafi
99320

Davies, DeWitt

From: Gregg Rivara [gjr3@cornell.edu]
Sent: Friday, April 18, 2008 9:06 AM
To: Davies, DeWitt
Subject: TMAUA's

Question on 25 below:

What is the county's policy on new applications for TMAUA after 12-31-07? Will the county approve only new assignments in cultivation zones?

25. **Pending Applications for Temporary Assignments** – Applicants with pending applications to obtain a temporary assignment from the NYSDEC will be given the opportunity to obtain a lease in accordance with the provisions established above. The applications must have been made by December 31, 2007.

G.

Gregg Rivara
Aquaculture Specialist
Cornell University Cooperative Extension of Suffolk County
3690 Cedar Beach Road
Southold, NY 11971

631-852-8660 ext. 35
631-852-8662 fax

gjr3@cornell.edu
http://www.cce.cornell.edu/~suffolk/Programs/MARhome.htm

New York State Department of Environmental Conservation
Division of Fish, Wildlife & Marine Resources
Bureau of Marine Resources
205 North Belle Mead Road, Suite 1, East Setauket, New York 11733
Phone: (631) 444-0430 • **FAX:** (631) 444-0434
Website: www.dec.ny.gov

Alexander B. Grannis
Commissioner

April 22, 2008

DeWitt Davies, Ph.D.
Chief Environmental Analyst
Suffolk County Department of Planning
H. Lee Dennison Building
100 Veterans Memorial Highway
P.O. Box 6100
Hauppauge, New York 11788

RE: Preliminary Draft Suffolk County Shellfish Aquaculture Lease Program Administrative Guidance

Dear DeWitt:

The purpose of this correspondence is to provide comments on the Preliminary Draft Suffolk County Shellfish Aquaculture Lease Program Administrative Guidance document that was prepared by Cashin Associates for the Suffolk County Department of Planning and distributed to ALPAC for review at the April 2 meeting. The following comments are provided on the preliminary draft document for your consideration:

1. Definitions section on pg. 5: The term "Shellfish Seed" should refer to "any shellfish measuring less than legal size as established under State law or regulation." Size limits for hard clams and soft clams are established under the ECL and size limits for bay scallops and oysters are established by regulation (6NYCRR Part 49).

2. Lease Application Process - Public Notice on pg. 6: recommend that the word "[voice]" comments be changed to "submit written" comments on the proposed lease unless Suffolk County will accept both verbal and written comments on lease applications during the public notice period.

3. Site Review/Ground Truthing on pg's 7-8: In the second bullet on pg. 7, first sentence, recommend that the term "[legal]" harvest of shellfish be changed to "commercial" harvest of shellfish. This section should be redrafted for the determination of naturally productive areas. The statutory responsibility to lease only those underwater lands that are not naturally productive for shellfish harvest rests with Suffolk County. Therefore, benthic surveys should be undertaken by Suffolk County prior to determining shellfish cultivation zones and designating potential lease sites within these zones in Peconic and Gardiner's Bays. Survey results should be made available to interested parties during the public notice period. Temporary markers can be placed at the potential lease sites during the public notice period to provide baymen with an opportunity to verify the survey results. The full or partial cost for benthic surveys may be incorporated into the lease fee and distributed over the term of the lease.

4. Requirements and Restrictions Once Lease is Granted - Lease Required on pg. 8: Recommend changing "[construct or operate a]" shellfish culture to "conduct any type of" shellfish culture either on/in bottom or in an off-bottom structure ...

5. Revocation on pg. 9: You should clarify what constitutes a "significant violation of the Environmental Conservation Law."

6. Annual Lease Fee on pg. 10: replace [do] with the word due.

7. Noise and Lighting on pg. 11: Clarification is needed in the last bullet that night time operations are limited to maintenance of buoys and other non-shellfish related activities. Possession of shellfish on the water at night is a violation of the ECL.

8. Importation of Shellfish [Seed] on pg. 12: Recommend changing this sentence to "All importation of shellfish [seed] of any size being used on County shellfish aquaculture leases must comply with all NYSDEC shellfish aquaculture regulations. Importation of shellfish, regardless of size, requires a permit from NYSDEC prior to importing shellfish into the state.

9. Sale for Human Consumption[s] on pg. 12: Recommend changing this sentence to "All shellfish cultured on County leases must comply with all applicable state rules and regulations and ECL for harvest, handling, tagging, storage, sale, sanitary control and aquaculture of shellfish."

10. Taking Possession of Wild Stock Shellfish by Lease Holder on pg. 12: Recommend changing this sentence to "A lease holder must comply with all applicable state rules and regulations and ECL for possession, harvest, handling, storage, sale, sanitary control and aquaculture of shellfish." The harvest and landing of wild shellfish may only be allowed when such harvest is unavoidable and incidental to the harvest of cultured shellfish.

11. Possession of Wild Undersized Shellfish on pg. 12: Not sure what is the intent of this section but recommend this be changed to "No person shall possess wild undersize shellfish on a lease site without the prior written authorization from NYSDEC."

12. Harvest of Shellfish Transferred from Other Waters on pg. 13: Recommend changing the term [depuration] to "natural cleansing".

13. Handling of Shellfish on pg. 13: Recommend changing this sentence to "Lease holders shall conduct all shellfish aquaculture activities and operations involving and relating to possession and handling of cultivated shellfish to prevent contamination and decomposition of such shellfish in accordance with all applicable state rules and regulations and ECL for sanitary control over shellfish and aquaculture, as summarized below:

14. Eligibility on pg. 13: This item is listed as pending; reserve comment for later time.

15. Corporate Applicants on pg. 13: 1) should this be Certificate of Incorporation instead of [Articles] of Incorporation?

16. Description of the Lease Application Process on pg. 17: For item 3., last sentence, should the word "[complete]" be changed to approved?

17. Annual Reporting Form on pg. 26: Method of shellfish harvest used on lease (recommend changing for [off-bottom operation] to on-bottom culture operation.

18. Annual Reporting Form on pg. 26: Suggest adding "and quantities and sizes of each species planted or cultured on the lease site".

19. Request for Lease Termination on pg. 28: What is the time-frame for a lessee to remove any structures or bottom cultivated shellfish from the lease site? Must this be done prior to termination of lease?

20. Suffolk County Shellfish Aquaculture Lease Program - Components - Site Specific Requirements for Private Oyster Grants on pg. 6: Recommendation that there should be an acreage limit on grant lands. Consistent with the Peconic Bay Aquaculture Advisory Report, leases should be no more than 50 acres for on-bottom culture regardless of total acreage of grant land. Oyster grant holders should be phased up to 50 acres upon satisfactory demonstration of use of lease and justification for this scale of culture operation for species other than oysters. Oyster grant lands that have not been used for culture of other species within five years should be subject to benthic survey requirements as apply to new lease sites. Establishing a limit on acreage for grant lands will reduce user conflicts and potential impacts from harvest gear and be more consistent with the overall framework for the proposed leasing program in Peconic and Gardiner's Bay.

21. Phased Expansion of Leases on Fallow Grants on pg. 7: Fallow oyster grants located in Gardiner's Bay comprise up to approximately 2,000 acres of underwater lands. These grants should not be included in the leasing program due to established commercial finfish, crustaceans and whelk fisheries and natural hard clam beds which have been documented on oyster grant lands in this area. Recommendation that fallow grants located in the shellfish cultivation zone (to be located west of Shelter Island) should be subject to benthic surveys if leases are desired.

22. Leases for Experimental/Education Leases & Shellfish Resource Restoration on pg. 8: There should be a cap established and maximum acreage per lease for experimental and restoration sites. Clarification is need to identify what is meant by "off-site habitat restoration"? This needs to be consistent with Suffolk County's authority for leasing of underwater lands for shellfish cultivation pursuant to ECL 13-0302.

Thank you for the opportunity to provide comments on the draft Suffolk County Shellfish Aquaculture Lease Program Administration Guidance documents. If you have any questions concerning these comments, please feel free to contact me at (631) 444-0483.

Sincerely,

Debra A. Barnes
Biologist 2 Marine

cc: Kenneth L. Koetzner, Chief, Shellfisheries

From: Karen E Rivara [mailto:keeno@juno.com]
Sent: Thursday, April 24, 2008 9:57 PM
To: Davies, DeWitt
Subject: Some comments from a farmer

DeWitt,
Hopefully these comments will make sense.

Under Definitions:
I know it is picky, but the titles of the old laws refer to granted lands for "shellfish culture" oysters were just the only shellfish they could cultivate back then. but I believe the titles say for "shellfish cultivation".

Under Lease Application Process.
What applies to active grants? Will the public process to initiate leasing program cover the allowance for active grants to continue their cultivation activities. Certainly we would not be required to dispel claims that our lands are productive. Mine ought be productive in some spots as I have work to achieve that particular goal. In no case should we be denied a grant to cultivate species other than oysters if we have followed all regulations and already have proper permits.

Site Location
will need to define "appropriate buoys"

Annual reporting./.
Design of operation in permit application for DEC / ACOE
boundaries of lease - Cty has that info
What is meant by processes to prevent contamination? What type of contamination?
What will County be looking for re sanitation and maintenance. Lots of this is duplicated by DEC. Can we submit copies of documentation required by them to Cty?
The amount of product brought to market is proprietary. I assume the Cty like the DEC will not allow this info to be made public.

Revocation
seed/acre
depends upon species and bottom type and cultivation method. Must have reasonable standard

Annual reporting form
What is crop contamination? What contamination?
What is Cty looking for re: sanitation? Leases should be in approved waters, so harvest from them would be permitted year round. What more is required? This is a DEC thing. Do all County employees understand shellfish sanitation?The ladies who conduct inspections for the Cty. Health Dept certainly don't. As they needled me for insignificant things like back flow preventers and sneeze guards, they neglected to check for tags and to see if oysters were on ice. (More on hilarious County Health inspectors at later date.)

The reporting of cultivation and harvest records must be confidential. It is no one else's business. The DEC and USDA keep this info confidential, the Cty must also.

Lease Transfer
how will this work on grants? Assume if grant sold to new owner, new owner also gets leases and must be responsible to program.

SUFFOLK COUNTY ....PROPOSED PROGRAM COMPONENTS
Site Specific Requirements - Private Oyster Grants
28. re: fallowing. A lease holder may have to fallow their grant or portions of their grant, to combat disease or discourage predators. However, I think this fallowing period would be a maximum of 5 years. See what Bassem thinks re disease. Dave R or Gregg re: predators.
At any rate this type of fallowing would give an idea of a "reasonable timeline" for fallowing. Certainly, a grant not cultivated for 20 years is inactive and not being fallowed.
However, do not want normal fallowing to be considered as inactive.

I think thats it

Good night
Karen

April 29, 2008

DeWitt Davies, Chief Environmental Analyst
Suffolk County Department of Planning
PO Box 6100
Hauppauge, New York 11788

Dear Dr. Davies

I feel I should present further information to you regarding the environmental effects of shellfish cultivation after listening to comments presented to the Suffolk County Department of Planning and Suffolk County Council on Environmental Quality at the April 17th public hearing.

Regarding bottom cultivation:

1) Bottom cultivation of oysters has occurred since the late 1880's in the Peconic Estuary. Hard clams have been cultivated on the bottom since the 1950's. Clams are strictly bottom dwellers and cannot be cultivated off-bottom. No documentation of damage to the environment has been recorded regarding this harvest method in the Peconics and Gardiners Bays. When oysters were cultivated extensively on the bottom in the middle of the last century nearly 300 people were employed by this industry in Greenport alone. Other species of fish and shellfish were also abundant.
2) One company's use of bottom harvest equipment, mainly hydraulic harvesters, on public ground cast this harvest method in a negative light. However, it is widely used regionally in Connecticut and in Oyster Bay, LI. Both areas are productive of shellfish and other marine species.
3) In 2001 Aeros asked Dr. Robert Cerrato, of SoMAS at SUNY Stony Brook, about the effects of hydraulic harvesting on our grounds off of Shelter Island. Attached is his response. As cited in the DGEIS, the DEC also studied the effects of hard clam harvest methods and found no significant difference between hand raking, hydraulic harvest and any of the other methods studied. (Barnes et al., 1991)
4) The gear used to harvest hard clams and oysters is often erroneously compared to the much larger gear used to harvest sea scallops and surf clams. Worse, it is often compared to channel dredging.
5) Shellfish farmers are cultivating shellfish in a described area. We are not using bottom harvest gear over large areas to find shellfish. We are harvesting what we have planted. Farmers cultivating hard clams on several hundred acres would only be turning over 10- 20 acres per year during the process of harvesting or preparing the bottom for planting.

Regarding the concern that "natural" clams would be harvested by farmers

1) Bottom cultivation requires a large investment in a specialized harvest vessel. To purchase and equip a vessel to harvest hard clams would cost no less than $150,000. The proposed size of the new leases and lease areas on fallow grants (5 -10 acres) makes this expense impractical, thereby eliminating the fear of harvesting wild product in those areas.
2) The regulations governing current operations that cultivate using the bottom dictate that harvest can only occur on one's grant by letter of permission from the NYSDEC. The grant

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owner must document all cultivation activities. No marketable hard clam product may be removed from the grant until it is mature, which is about a 4-6 year time investment. No harvest can occur before the first planting the NYSDEC has documentation of is mature. Any hard clams harvested during the process of bottom preparation must be returned to the water or given over to a public entity. It is legally impossible to remove hard clams from a grant unless they have been planted there. Farmers must, therefore, wait 4 – 6 years for any hope of a return on their investment. This will also discourage any individual who wishes to take advantage of the program by trying to harvest what they have not planted. See copy of permit conditions for Aeros grant lands.

Regarding Environmental Benefits/ Best Management Practices

The benefits of shellfish cultivation are widely documented. These benefits apply to all species cultivated and all cultivation methods. They are:

a) Sustainability – cultivation of shellfish relieves the pressure on wild populations
b) Create habitat and promote sets of shellfish on unfarmed grounds.
c) Clean water by filter feeding
d) Remove excess nitrogen.

The East Coast Shellfish Growers Association is working on a Best Management Practices program to be adopted by growers. This will enhance the stewardship capabilities of growers on the East Coast by guiding us to us the most appropriate citing and methodology for our operations. Continued studies that address concerns about hydraulic harvesting are a part of this program. Most operations that use hydraulic harvesters are located in areas similar to granted lands in the Peconics and Gardiners Bays and are not negatively impacted by this practice when used in conjunction with a cultivation program.

A study is being conducted this summer in Riverhead, New York at a shellfish nursery cultivation site to examine the quantitative impacts of a commercial oyster nursery upon water clarity, phytoplankton, and dissolved nutrients. This study is being conducted by researchers at the National Marine Fisheries Service laboratory in Milford, Connecticut.

It must be remembered that the existing aquaculture operations and those being proposed are confined to designated plots and are easy to monitor. We do not use pesticides or any other inorganic compounds in the cultivation of our product. This is important for not only for the environment, but also for human health. Farms are located in clean waters and our operations are very visible.

Any reduction or limiting of commercial shellfish aquaculture will mean that the taxpayer, who already funds municipal, county and state seeding programs for shellfish restoration, will simply have to pay more to make up for the millions of seed that would not be otherwise planted by shellfish farmers. I look forward to the continuation of my shellfish farming efforts in the Peconic Estuary through the County leasing program.

I hope you find my comments and the attached information helpful. Please contact me if you have any questions.

Sincerely,

Karen Rivara

Cc: Greg Greene, Keith Brewer - Cashin Associates
R. Lawrence Swanson - CEQ Council Chair

North Shore Baymen's Assn., Inc.
62 Oldfield Rd.
Huntington, New York 11743

April 27, 2008

Suffolk County Department of Planning
H. Lee Dennison Building
100 Veterans Memorial Highway
P.O. Box 6100
Hauppauge, New York 11788

Enclosed Find my comments for the DGIS for the Suffolk County Aquaculture Program.

Respectfully

Robert M. Wemyss
Secretary NSBA

From: John Aldred [mailto:jaldred@town.east-hampton.ny.us]
Sent: Monday, April 28, 2008 12:20 PM
To: Davies, DeWitt; Greene, Gregory
Subject: DGEIS

Sorry for this late submission, but I recently got back from CA. Only a few comments:

1. p.110 – grant #55 is in Gardiners Bay (not Great Peconic Bay) according to the reference map between pp. 114 & 115.
2. p.171 – The 4th paragraph talks about eel grass absence, possibly attributed to nutrient enrichment. However, I believe that Bob Nuzzi has talked about nitrogen levels diminishing in the estuary (figure 8, p.143). Is this contradictory?
3. p.201 – The statement about dredging on the Blue Points property is not attributed to any particular source, but all other statements about dredging are.
4. p.253 - Regarding the party/charter boat fishery, there might be mention of the 'fly-fishing' boats – small speed boats that take individuals or small parties around to the flats and shallows, often, but not always, using fly fishing gear. There are quite a few of them out east here. Also, Montauk isn't mentioned as a base for charter boats, but boats from there sometimes go into Gardiner's if the winds are a problem farther east.

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From North Shore Baymen's Assn.

Comment on DGIS

The statute does not authorize the scheme devised by the County of Suffolk to expand the rights of current Oyster Land Grant holders through leases.

I have included below a portion of my affidavit from the original controversy with the State and the County. It provides the legal support for the application of the rule of strict construction of the statute. It documents the facts on the record about the illegal nature of the original oyster grants which alone is enough to end their private use. In the plain and ordinary meaning of the law no one could reasonably conclude that the New York State legislature intended to authorize this elaborate scheme to gift natural clam beds to grant holders.

Robert M. Wemyss, being duly sworn, deposes and says:

1) I am a plaintiff in the above-entitled action and I have been permitted by the State of New York as a "shellfish harvester", permit number 7873, without interruption since 1981.

2) I am the secretary of North Shore Baymen's Association Inc., and have been since 1984.

3) I have been conducting research on New York's shellfish industry since that time.

4) I have studied aspects of the alienation of public lands with specific focus on the alienation of lands underwater granted, leased or otherwise alienated by the State of New York and various political subdivisions thereof.

<u>Lands granted by the Suffolk County Shellfish Commissioners between 1884 and 1915</u>

5) A synopsis of underwater land grants made by the Suffolk County Shellfish Commissioners between 1897 and 1906 is contained in the report of the said commissioners made to the Suffolk County Board of Supervisors and recorded in the "PROCEEDINGS OF THE BOARD OF SUPERVISORS", on April 10, 1906. Annexed hereto as **exhibit 14.**

6) This report shows that the commissioners made no report to the Board of Supervisors, for 14 years, between 1892 and 1906 and that between 1897 and 1906 the commissioners granted 27,514.5 acres of underwater land for oyster culture.

7) The authorizing statute Chapter 385 of the Laws of 1884 as amended by Chapter 916 of the Laws of 1896 restricted applications for underwater land stating that

such applications "shall not cover more that twenty-five acres, nor shall said commissioners convey to any one person less than one or more than twenty-five acres." The clear intent of the legislature to restrict oyster land grants to twenty-five acres or less was ignored by the Suffolk County Shellfish Commissioners who circumvented the law by issuing single deeds, of up to 1,100 acres each, to joint applicants. Examples of which appear in the Shellfish Commissioners Record pages 77 through 97 including dates between October 5, 1905 and May 18, 1906, which is annexed hereto as **exhibit 15.**

8) The pattern of grants and subsequent transfers shows that ownership of underwater land in Gardiners and Peconic Bay was quickly consolidated by the preeminent oyster planters of the day. Controversy over conveyances by the commissioners of "natural grounds" where shellfish grew naturally and which were supposed to be off limits to granting had by 1908 reached the point that the baymen found it necessary to retained council to "bring suit to oust all the Oystermen from the natural grounds". "PROCEEDINGS OF THE BOARD OF SUPERVISORS" September 22, 1908 annexed hereto as **exhibit 16.**

9) The controversy culminated in 1914 with the case of **Suffolk County v. Edwards, 148 N.Y.S. 305; 86 Misc. Rep. 283**, in which the Suffolk County Board of Supervisors sued the Suffolk County Shellfish Commissioners to recover illegally granted natural grounds. The language of the court was clear and unambiguous as to the limited rights of the County of Suffolk and of the holders of grants of underwater land in Gardiners and Peconic Bays:

"There has always been a natural abundance of other shellfish such as clams and scallops...It is also to be observed that the act of 1884, if considered as a grant, is to be construed strictly in favor of the state, and that it was explicitly 'for the purpose of oyster culture' alone...There is clear distinction between grants of private property for private purposes and secessions of public properties for governmental purposes. To these lands underwater the right and title of the state was sovereign not proprietary. The state held the title of the people for the common benefit and to promote the public convenience and enjoyment of the natural beds. All the state had to cede and all the county took by the act of 1884 was the title held for government purpose"

10) The findings of fact in Suffolk County v. Edwards which are contained in the original decision in case kept by the Suffolk County Clerk are, for the

convenience of the court, annexed hereto as **exhibit 17**. These conclusions provide insight in the actions of the Suffolk County Shellfish Commissioners:

"FOURTEENTH: That contrary to the statute in such case made and provided, the said Commissioners of Shell Fisheries did not bring the said applications to the attention of the Board of Supervisors of Suffolk County, and that said Commissioners and said Board, or a committee thereof, did not hear and pass upon said objections, and did not determine that the said land so applied for by either of the said applicants was of an area of not unreasonable extent and did not direct the Clerk of the County of Suffolk to sell the lands so applied for at public auction to the highest bidder; and that no attempt was made by the said Commissioners of Shell Fisheries to comply with the law applicable to said applications; that Chapter 385 of the Laws of 1884 of the State of New York permitted the conveyance of only four acres of oyster ground under the waters of Gardiner's Bay or the Peconic Bays to one applicant; and that Chapter 916 of the Laws Of 1896, amending said Chapter 385 of the Laws of 1884, permitted the granting of no more than twenty five acres of such ground to one applicant; and that the only authority for conveying more than twenty five acres of said ground to one applicant, assuming that said ground has not been set apart and can be legally conveyed in an amount, is Chapter 640 of the Laws of 1906, which the defendant attacks as unconstitutional.

FIFTEENTH: That the defendants Everett J. Edwards, Clarence C. Cartwright and Edwin D. Tuthill, individually and as Commissioners of Shellfisheries, did not act in good faith in making the said attempted conveyance hereinbefore set forth, but acted in ignorance of the law governing their actions as such the commissioners and in defiance and contempt of its provisions."

11) The last log entry of the Suffolk County Shellfish Commissioners came in 1915 when they quit their office and granted no more underwater land.

<u>Grants of State Owned Underwater Land</u>

12) On a state level the power of the State "Shell-Fish Commissioner" to grant *perpetual franchises* for shellfish culture on state owned underwater land pursuant to Chapter 584 of the Laws of 1887 was repealed in 1909 by Chapter 24 of the laws of 1909 in favor of less permanent leases for shellfish culture. Chapter 584 of the Laws of 1887 was construed by the courts in 1904. The case of **<u>Vroom v. Tilly</u> 184 NY 168**, dealt specifically with the construction of grants of state owned underwater land and set strict standards for compliance with the terms and automatic reversion to the state upon failure to continuously maintain boundary markers and to continuously use the property as intended.

The doctrine of strict construction for grants of public land was recognized by the United States Supreme Court: "

The rule of construction in the case of such a grant from the sovereign is quite different from that which governs private grants. The familiar rule and its chief foundation were felicitously expressed by Sir William Scott: "All grants of the crown are to be strictly construed against the grantee, contrary to the usual policy of the law in the consideration of grants, and upon this just ground: that, the prerogatives and rights and emoluments of the crown being conferred upon it for great purposes, and for the public use, it shall not be intended that such prerogatives, rights, and emoluments are diminished by any grant, beyond what such grant, by necessary and unavoidable construction, shall take away." **Shively v. Bowlby, 152 U.S. 1.**

Statutes authorizing grants, leases, and perpetual franchises were not passed to defeat the common law principles which stand against granting an exclusive right of fishery, but rather to allow cultivation of unproductive underwater land while protecting the publics rights to the natural beds. In Gardiners and Peconic those grants were for the cultivation of oysters and oysters only.

Statutes delegating sovereign power are to be strictly construed by the courts, **Peace v. McAdoo, 110 App. Div. 13; 96 N.Y.S. 1039,** Such statutes carry only the powers clearly stated therein, **Ocean Beach Ferry Corp. v. Incorporated Village of Ocean Beach, 298 N.Y. 30,** and a delegation of the legislature's authority to others will never by implied, **Town of Mamaroneck v. New York Interurban Water Company, 126 Misc. 382.**

Egalitarian Concerns

To understand this conflict one must look back at events which surround the 1914-15 oyster lands case (Suffolk County v. Edwards) in his decision Judge Kelby J, stated that:

there has always been a natural abundance of other shellfish such as clams and scallops, ... the law of 1884, if considered as a grant, is to be construed strictly in favor of the state, and that it was explicitly "for the purpose of oyster culture" alone. The fundamental fallacy, however, underlying the entire contention [the contention that a proprietary interest in underwater land was had by these grant for oyster culture] is that

it overlooks the clear distinction between grants of private property for private purposes and cessions of public properties for governmental purposes. To these lands under water the right and title of the state was sovereign and not proprietary. The state held the title of the people for the common benefit and to promote the public convenience and enjoyment of the natural beds. (Suffolk County v Edwards, 148 N.Y.S. 305, 86 Misc. Rep. 283)

This case was the culmination of a long running controversy over the manner in which the Suffolk County Shellfish Commissioners granted underwater land. The catalyst for the controversy was the baymen's repeated complaints that the commissioners were illegally granting naturally productive shellfish grounds to oyster planters. The shellfish commissioners left office never to sit again after the court found that they had illegally granted productive shellfish beds.

The present controversy is over illegal resurrection of tax delinquent, abandoned and unused oyster lands and the illegal hydraulic hard clam dredging conducted on those lands. Our primary contention is that these *oyster land* grants were illegal enclosures of natural shellfish beds. It is important to note that in the Edwards case the defense claimed these were private grants and that the owners had a right to the natural scallops, mussels and clams, the court rejected these assertions. In any event the court decided that the oyster lands can only be used for oyster cultivation and the state and the county lack the authority allow any other use.

The settled law in New York's state waters is that only unproductive areas can be considered for cultivation and that only legally planted shellfish can be protected as property. The acts of various governmental authorities that have been in charge of evaluating land for cultivation use speak for themselves. I do not ask anyone to adopt my conclusions but rather if some one is interested in the truth that they examine the instruments of appropriation; deeds, leases and assignments as I have done and look a the habitat they enclose. A review of initial transfers and subsequent transfers shows that these were sophisticated schemes perpetrated in secret. The truth is the owners of a few companies consolidated control of the overwhelming majority of these underwater lands with the assistance of crooked politicians and officials. My conclusion is that the oyster land grants were clearly intended to enclose productive shellfish beds..

The problem with past appropriations of public land for aquaculture on Long Island is that each of the various schemes for appropriation ended up with large companies controlling vast tracts of productive natural shellfish habitat. The schemes all seem to start out the same way offering small plots; in Islip it was 2 acres, in Huntington 10 acres, in Gardiner's and Peconic 4 acres, then 25 acres. They all promise to reserving natural beds for the public use but end up appropriating them.

We are faced with a situation where natural hard clams are being hydraulically dredged illegally from *oyster lands*. Baymen and the public are asked to believe that a new leasing scheme will be different from the schemes of past.

It would be ignorant in the face of experience to assume:

a) That this won't be just another habitat grab.
b) That the terms and conditions agreed upon will be enforced.
c) That baymen won't be subjected to one-sided enforcement.
d) That it won't be another deal to allow enclosure of natural beds or justify hydraulic dredging of natural shellfish under the cover of aquaculture.

Hydraulic Dredging

The committee report makes several statements about the impacts or lack of impacts of hydraulic dredging which are misleading and gratuitous:

1) *"The evidence from scientific assessments of the relative environmental impacts of hydraulic vs. "dry" (mechanical) dredges did not reveal that the impacts of hydraulic dredging were any more severe or persistent than those created by dry dredges. On the contrary, evidence was presented to the committee that rate of shell breakage and damage in hand harvesting operations of soft-shell clams was higher than with either hydraulic or dry dredges." (PBAAC committee's report)*

This conglomerate of conclusions does not seem to reflect a careful review of the current available science on the subject of mobile fishing gear impacts. Comparing dry dredging to hydraulic dredging or soft clam harvest breakage rates between gear types is not valid. The breakage rate for hard clams is actually much higher with mechanical gear than with hand rakes, but it is in any event an irrelevant and gratuitous inclusion.

Instead it seems to be a selective sampling to whitewash the use of hydraulic dredges in Gardiner's and Peconic Bays. The committee avoids the issue of wholesale resuspension associated with hydraulic dredging.

"The immediate effects of suction dredging are, not surprisingly, quite severe, as the entire upper layers of the substratum and fauna are removed. In some fisheries, bivalves are collected by hand or mechanized raking. As yet unpublished data (Kaiser, Broad and Hall) suggests that the composition of benthic fauna within hand-raked plots recovers within 54 days of initial disturbance. Unlike suction-dredging techniques, hand-raking leaves the sediment in situ and does not affect all the animals within the path of the rake." (Environmental Impacts of Bivalve Mariculture M.J. Kaiser, I. Laing, S.D. Utting and G.M. Burnell)

Another disturbing thing is that in comparing soft clam harvest to hard clam harvest the committee reports fails to identify the fundamental differences in habitat of these two species. Soft clams inhabit *high energy* shallow waters typically littoral and sublittoral flats, which are characterized by their shifting nature. The organisms in these areas are adapted to this environment and are highly tolerant of the natural disturbances. Hard clams on the other hand inhabit *low energy* sub-tidal areas that are by their nature subject to much less natural disturbance. The deeper areas, which make up a large portion of the productive natural hard clam habitat in Gardiner's and Peconic Bays, are *low energy* areas not subject to the upheaval of soft clam areas. Scouring by tidal currents in these deeper area deposits fine sediments in to areas of still lower energy. The bottom in these deep basins is mostly fine soft mud precisely because of the *low energy* conditions there encourage settlement of sediment that would remain in suspension in more turbulent areas. The natural tidal suspension of fine sediments from soft soupy mid-bay mud is not comparable the suspension from hydraulic dredging, which suspends sediments from deep beneath the bay floor, sediments which normally remain in their anoxic tomb.

On the margins of these deeper basins and bay centers is what baymen call the edges. Edges are centers of estuarine life, where the mid-bay mud meets the harder grittier bottom with its more diverse benthic communities. Edges are primary natural shellfish and finfish habitat. The edges are characterized by inclines that rise more or less sharply to flats that slope gently to the shore. Charts often show edges as contour lines running roughly parallel with the shore mirroring the shorelines curves and features. In Gardiner's bay the edges are at various locations between 14 and 40 feet, some

shallower, some deeper. While the impacts of dredging on shallow shifty sand bar habitats may be of great interest they cannot inform us of the impacts on deep-water edges and *low energy* mud basins.

"At the smaller end of the size spectrum, silt and clay particles in muds are so vulnerable to resuspension and removal that they accumulate mainly in areas with a low frequency of resuspension (e.g., the deep sea) or high supply (estuaries). Disturbance of the Seabed by Mobile Fishing Gear". (A Comparison with Forest Clear-Cutting, Les Watling and Elliot A. Norse)

Clams are harvested by hydraulic equipment that shoots water onto clam beds. The pressurized water changes the environment from a solid to a fluid state and, since clams are light, they float to the surface where they are easily collected. Moralities may result from breakage, by deep burial, or through increased exposure to predators. The potential for long-term damage is greatest in shallow waters where wave energy is minimal, and in coarse, compact substrates (Dobrocky Seatech 1984).

Watling and Elliot observed that "dredging for shellfish resuspend large amounts of sediments (Pilskaln et al. 1998, this issue). Riemann and Hoffmann (1991) found short-term increased suspended sediment loads of 960-1,361%. The sediment plume and organisms (e.g., polychaetes, amphipods) entrained within it affect water clarity, oxygen content, and energy relations of organisms living or feeding where the plume interacts with the bottom. High suspended sediment loads in shallow waters affect photosynthesizers in the water column and on the seabed. High suspended sediment loads are associated with shifts in fish communities from domination by visual predators to those that find food by touch and chemosensation, as well as alteration of the benthic community from one dominated by suspension-feeders to one having a preponderance of deposit-feeders. Once deposit-feeders become dominant, they can prevent recovery of suspension-feeders by feeding on and smothering settling larvae (Dayton et al. 1995)."

Watling and Elliot also concluded that *"resuspension of buried organics increases oxygen demand in the water column; in areas where dissolved oxygen is already limiting, this increase could significantly affect plankton and nekton species composition, even contributing to the growth of anoxic areas. Resuspended sediment and pore water*

can also add to the nutrient loading of the water, perhaps triggering phytoplankton blooms".

2) *"Given this and the above restrictions on number of 50-acre leases that would be allowed at any one time, the volume of bottom sediments likely to be resuspended by hydraulic dredging on leased aquaculture lands pales in comparison to the volume of such sediments typically resuspended in a coastal storm."(PBAAC committee report)*

The fallacy of this argument should be clear: coastal storms are not optional they can indeed suspend large amounts of sediment but they do not typically turn over the deep-water benthic communities or resuspend the anoxic sediments beneath them. The characteristic effect of coastal storms on the deep-water benthos is the subsequent settlement of fines sediments areas in the deeper basins and other *low energy* areas. We can only regulate anthropogenic activities it is a disservice to suggest that this committee has come to an objective conclusion that the effects of natural storms can be validly used to justify actions of man. The sediment typically suspended in a coastal storm is from *high energy* areas where the sediments a not normally anoxic and do not contain the same high levels of nitrogen and ammonia as sediments from *low energy* areas. There is such a qualitative difference between these two types of sediment that the comparison drawn by the committee report is absurd.

The following is reprinted from a 1998 Army Corps Technical Note on dredging operation. It is worth noting that navigational dredging is done because it is necessary and that unlike hydraulic dredging for shellfish the regulatory object of navigational dredging is to prevent resuspension of benthic material and great pains are taken to achieve the containment of the spoils. It highlights some of the concerns associated with suspended sediments associated with dredging operations.

Turbidity, Suspended Sediments, and Sedimentation: *Of the Districts surveyed, 68 percent (25 Districts) reported turbidity, suspended sediments, and/or sedimentation issues as a reason for environmental windows (Table 3). In the protection of commercial and sport fish species, dredge-induced turbidity/resuspended sediments was cited as an issue of concern for 22 Districts (59 percent), followed by sedimentation for 15 Districts (41 percent), as the most common reason for dredging restrictions. How egg and larval stages of marine and estuarine species arc affected by dredging and disposal operations has been a focus of many resource agency requests for windows. Many fish*

species deposit demersal eggs that remain on the bottom until larval hatching. Resource agencies suspect high mortality of eggs by smothering, as a result of sedimentation, and of larvae by clogging or abrasion of gill tissues caused by suspended sediment particles. For adult and juvenile fishes, the potential blockage of migratory pathways of various anadromous species due to their hypothetical avoidance of turbidity plumes was frequently an issue of concern. Anadromous fishes such as striped bass, American shad, alewife, sturgeon (e.g., shortnose, gulf, pallid), and a number of sahnonids (e.g., chinook, coho) were the most frequently listed species of concern. Sedimentation issues are also implicated to support windows to protect submerged aquatic vegetation and shellfish. The burial of aquatic plants such as eelgrass (e.g., Zostera ma?lna) due to dredging activities was reported as a windows-related issue in five Districts surveyed. Shellfish such as mobile crustaceans (e.g., shrimp, crabs) and sessile mollusks (e.g., oysters, clams) are also suspected to be negatively affected by increased levels of turbidity and sedimentation. Nine USACE Districts (24 percent) currently list shellfish with regards to turbidity and sedimentation as a concern leading to windows. Major concerns involve siltation effects on suitability of clutch material settlement by larvae of the eastern oyster (Crassostrea virginica) and siltation-induced suffocation of oyster bars. (Reine, K. J., Dickerson, D. D., and Clarke, D. G. (1998). "Environmental windows associated with dredging operations." DOER Technical Notes Collection (TN DOER-E2). U.S. Army Engineer Research and Development Center, Vicksburg, MS. www.wes.army.milleLidotsldoer)

Hydraulic dredges of the type used on Long Island conservatively suspends 1 cubic foot of benthic material for every 1.5 feet of linear travel. At a towing speed of 3 miles per hour the dredge will process 390 cubic yard of benthic material in and hour. With a 75% bottom time in an eight-hour day a single vessel will process 2,340 cubic yard of benthic material. The turbidity and off site siltation and sedimentation caused by processing this much benthic material is a function of the composition of the material and the local conditions.

The purpose of the water manifold on the dredge is to clear the mud and fine benthic material from the dredge. A series or nozzle blow down into the bottom liquefying it and another series blow back into the cage of the dredge to clear the mud from the containment are. They are blowing the bottom apart and be damned the collateral damage and downstream effects. Is it unreasonable to expect aquaculturists to keep the benthic destruction limited to the plot of land they cultivate?

a) The light blocking effect of the turbidity alone should be enough to disallow the process in a bay system where we are trying to protect and regenerate eelgrass habitat.
b) The immediate chemical oxygen demand from suspending anoxic mud and the consequence of ammonia release from those sediments should be enough to disallow the process.
c) This siltation and smothering concerns alone should be enough to disallow the process.

Hydraulic dredge operating in Little Neck Bay

Environmental issues associated with shellfish transplanting

The transplanting of shellfish from uncertified (polluted) areas has been an important aspect of New York's shellfish industry since the 1940s. Despite our concerns over public resource use and access to baymen we recognize that the Raritan Bay transplant provides significant employment to independent baymen who hand harvest the shellfish from Raritan Bay. There are risks from transplanting large volumes of shellfish from other areas. By introducing these shellfish to Peconic and Gardiner's bay we are

essentially allowing intercourse with New York Harbor and New York Harbor, through ballast water discharge of international shipping, has daily intercourse with the world.

The impacts of algae blooms has been visited on shellfisheries worldwide. We think it is fair to suggest that there should be no expansion beyond current annual introduction of shellfish from outside the estuary, and in addition plans should be developed to examine past impacts and potential future impacts. Transplanted shellfish can and have been a vector for harmful species.

The faeces and digestive tracts of bivalves can be packed with viable dinoflagellate cells or can contain resting cysts (Scarratt et al. 1993). Viable cysts may also be found in the mud and sand retained with dredged mussels. These cysts may then be released into coastal waters at a new location (Kaiser et al 1989)

The application of the precautionary principle seems reasonable. As a long-term goal we believe that isolating the stocks within definable estuaries would be prudent. Alternative technologies of shellfish purification that do not require transplanting should be investigated, they include on land closed circuit depuration and barge depuration that could be conducted on site in Raritan Bay.

Introductions of algae, including toxic dinoflagellates, blooms of which can have a significant impact on commercial bivalve mollusc culture, have generally been attributed to the transportation of resting cysts in ships' ballast water (Hallegraeff and Bolch 1991). However, normal trading, involving transport of shellfish stocks from one area to another followed by relaying or storage in open basins, can provide another mechanism of transfer. In the Netherlands, recirculating storage systems are used to quarantine mussels and oysters as a precaution against such introductions (Dijkema 1995).

We are confident that this is a problem that can and should be worked out by industry but it ought not be allowed to languish.

Non Indigenous Species and genetic concerns

The introduction of species through aquaculture is only partially documented the impact of past introductions cannot be gauged, Oyster planters moved huge volumes of oyster seed up and down the coast through the middle of the last century the consequences have usually been viewed for there impacts on aquaculture. The impact on the wild fisheries has never been fully documented. There is a great deal of fiddling around with breeding of shellfish to create the perfect cultivation organism. Could mixing of wild and cultured stocks produce offspring that is less viable than the natural stock? Transplanted oysters often fail to set in their new environs. This suggests that they may be so specifically selected in their natural environment that that they cannot produce viable offspring outside it. The inverse can be true as well the introduced species can be limited by various factors in it's natural environment and be introduced to a place where those limits do not exist. Again all this leads me to conclude the application of the precautionary principle must be applied because consequences to wild shellfish could be irreversible.

"Many countries also have additional national legislation to control the introduction of exotic bivalve species for cultivation. In the UK, for example, release of exotic species into the wild is only permissible by license under the Wildlife and Countryside Act (1981). The International Council for the Exploration of the Sea (ICES) has produced a Code of Practice entitled "The Introductions and Transfers of Marine Organisms 1994". This most recent version of the Code addresses three challenges that face aquaculture today. Firstly, inadvertent co-introductions of harmful organisms associated with the target species, as occurred recently in Pacific oyster shipments from France to Ireland (Holmes and Minchin 1995); secondly, the ecological and environmental impacts of introduced and transferred species; thirdly, the genetic impact of introduced and transferred species on indigenous stocks. Although there is concern in the salmon industry that if farmed fish escape they may affect the genetic diversity of native stocks, the genetic impacts of transferring bivalve stocks from one area to another have not been addressed.

Invasive alien seaweeds, including Sargassum muticum, Undaria pinnatifida and Laminaria japonica are also thought to have been introduced into European waters through transport of the sporophyte stage in oyster juveniles, or as small plants attached to bivalve shells (Rueness 1989)." (Kaiser)

Potential impacts of off bottom culture on the bottom

The potential for nutrient loading and bacterial matting from raft culture should be examined and in the case of transplanting sediments beneath the structures should be periodically tests for chemicals and metals.

Dahlbäck and Gunnarsson (1981) in Sweden. ... demonstrated organic sedimentation rates of 2.4-3.1 g organic C m^{-2} d^{-1} beneath mussel longlines which was twice as much as found in adjacent uncultivated areas. This excessive

organic enrichment was associated with anoxic sediment and bacterial mats of bacteria, Beggiatoa spp., developing beneath the longlines. In this situation, the benthic infauna had low diversity and biomass which is a well documented response to polluted sites (Pearson and Rosenberg 1978). Similarly, the productivity of densely stocked Japanese oyster grounds was detrimentally affected by the generation of large quantities of pseudofaeces and high filtration rates (Ito and Imai 1955; Kusuki 1977). Pseudofaeces production was so great beneath oyster cultivation rafts that it was at least equivalent to natural sources of sedimentation (Mariojouls and Kusuki 1987).

Intense fish and shellfish cultivation sites have been beset by epidemic diseases. Consideration should be given to emergency contingency planning to eradicate stocks of diseased cultivated shellfish to prevent the spread of such diseases to wild stocks.

Hydraulic dredging will without question expose the dormant brown tide seeds in the sediment increasing the likelihood of major reoccurrences.

Suffolk County as the lead agency is responsible for dealing with all the impacts associated with the proposed action. Instead, the county scapegoats the New York State Department of Conservation as the regulator of activities that would be permitted on leases. This is not appropriate because it prevents a full discussion of what the state will eventually allow, so in term of environmental and socioeconomic impacts the State is the lead agency. The cards are not on the table.

The fact is if a lease for an oyster grant is given where that oyster grant is a natural clam bed, which many have proven to be, the state law will compel the state to authorize the use of mechanical means (hydraulic dredges). This will set up exclusive right of fishery for natural clam beds which is the opposite of what the legislature intended. This is exactly what the grant holders and the County of Suffolk appears bent on doing. It is not less than criminal: Public resources (natural clam beds) shepherded into private hands by public officials.

Robert M. Wemyss

From: John Aldred [mailto:jaldred@town.east-hampton.ny.us]
Sent: Monday, April 28, 2008 12:20 PM
To: Davies, DeWitt; Greene, Gregory
Subject: DGEIS

Sorry for this late submission, but I recently got back from CA. Only a few comments:

1. p.110 – grant #55 is in Gardiners Bay (not Great Peconic Bay) according to the reference map between pp. 114 & 115.
2. p.171 – The 4th paragraph talks about eel grass absence, possibly attributed to nutrient enrichment. However, I believe that Bob Nuzzi has talked about nitrogen levels diminishing in the estuary (figure 8, p.143). Is this contradictory?
3. p.201 – The statement about dredging on the Blue Points property is not attributed to any particular source, but all other statements about dredging are.
4. p.253 - Regarding the party/charter boat fishery, there might be mention of the 'fly-fishing' boats – small speed boats that take individuals or small parties around to the flats and shallows, often, but not always, using fly fishing gear. There are quite a few of them out east here. Also, Montauk isn't mentioned as a base for charter boats, but boats from there sometimes go into Gardiner's if the winds are a problem farther east.

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Date April 30,2008
Subject: Comment on the DGEIS for the Shellfish Aquaculture Lease Program for Peconic and Gardiners Bay.
From: Peter Wenczel.
675 W Shore Dr
Southold, NY 11971

1. The lack of a specific delineation of the welk harvest areas on the project map of the Socioeconomic Sensitive Areas is obviously an intentional effort to minimize the scope of the welk fishery and the impact that this leasing project will have on that fishery.
2. The selection of areas to be included in the Shellfish Cultivation Zone obviously has not included an evaluation of welk fishing in those areas. Areas where commercial the harvest of welks occur need to be delineated and excluded from the shellfish cultivation zone.
3. In the section on Impacts the discussion of Amplification of Native and Exotic Shellfish Diseases needs to more fully explain this threat and how it will impact native populations since it will most likely occur. The concept that monoculture enhances the spread of diseases needs to be fully explored.
4. The inclusion of table 28 and any of the conclusions that have been drawn from that table is an out right attempt to lie about the scope of the welk fishery. NY dose not have mandatory reporting of welk landings and the numbers that are included in table 28 are ridiculously small compared to the real landings that occur. A serious and honest effort needs to be made to delineate the scope and contribution that the welk fishery has on the total economic value of the Peconic Gardiners Bay fisherys.
5. The paragraph that follows table 28 suggest that fishing effort for welks has increases due to reduced populations of Queen Conch is a fallacy. Welks are a very different product compared to the Queen Conch and increase in landings in recent years is a result of fishermen being displaced from other fisherys nad the strong demand from Asian markets for Welk.
6. The section on horseshoe crabs beginning on page 248 presents data that is incorrect and the conclusions that are drawn from the landings data are wrong and demonstrate a complete lack of understanding about the horseshoe crab fishery by the author. Addendum I that reduced NY's quota to 366,272 crabs went into effect on May 1, 2000, which means that NY exceeded its ASMFC quota only in 2000. In 1999 the NY quota was still 488,362 crabs. The paragraph seems to suggest that the decrease in landings after 2000 was due to overharvest and not to a decrease in fishing pressure. The fact is that after going so far over the quota in 2000 NY was required to repay the overage in 2001 which greatly curtailed the harvest in 2001. After 2001 harvest levels have remained around the 150,000 mark because of harvest restrictions and more timely reporting procedures enacted by the NYDEC.
   There has been no noticeable decrease in abundance observed by the fishermen involved in the fishery and the DEC surveys indicate that the population in NY waters is stable or slightly declining in some areas. The increase in landings in

2007 was due to a shift in fishing pressure from the Delaware Bay to the NY area due to harvest closures. The increased pressure coupled with the extreme abundance of horseshoe crabs created a situation where reported landings were so large during a one week period in May of 2007 that the DEC was unable to respond quickly enough to stop the harvest and keep the fishery within its allotted quota. There is no shortage of horseshoe crabs in NY.

7. The discussion on page 280 about the loss of harvest areas need to more fully and honestly explore the impact on the welk fishery. These impacts will be real and significant to the baymen involved.
8. The suggestion on page 283 that the leasing program will benefit displaced baymen is deceiving and misleading. The program itself will displace baymen, most of which are not interested in aquaculture. This fact needs to be more fully discussed here.
9. A discussion how baymen have been forced to spend significant time and effort resulting in a loss of income and productivity in order to protect there fishing life style as a result of this leasing program needs to be included in the section on impacts. It is hard enough to earn a living fishing without having to devote valuable time to fighting issues that threaten their lifestyle.

From: Matthew Atkinson [mailto:matthew@peconicbaykeeper.org]
Sent: Thursday, May 01, 2008 4:56 PM
To: Isles, Tom; Davies, DeWitt; DelGiudice, Barbara
Cc: Kevin McAllister; Sumner Pingree
Subject: ALPAC/ DGEIS

Dear Mr. Isles,

I submit these comments on the draft generic environmental impact statement on behalf of Peconic Baykeeper. We continue to be concerned with the decoupling of the regulatory program, governed by DEC, from the County's leasing program. This decoupling raises two issues.

The first is practical. There is a danger of the process becoming too cumbersome to be useful. This can arise if the County and DEC make their respective leasing and permitting decisions upon inconsistent bases, with the applicants shuttling between both. Such a situation is not unusual, especially in regards to underwater lands, but consideration of the interface may help identify a mechanism for inter-agency coordination.

The second issue is that the leasing program is but one element of larger scheme of aquaculture. The environmental impacts of that scheme are not adequately addressed without consideration of alternate management plans based upon a substantive analysis of shellfish aquaculture methodologies, including harvesting techniques. Perhaps this might be considered suitable for a Supplemental EIS - perhaps also, it might best be prepared by DEC. However, in our view, the question needs to be addressed in order to complete an environmental assessment of the program as a whole. For example, consider a scenario where all available lands, including the total acreage of private oyster grants, are permitted for on bottom cultivation and harvest by hydraulic dredge. Such permitting might have significant cumulative impacts as well as being a significant departure from DEC's present Temporary Marine Assignment program. Clearly, a management plan is advisable, and without one, Peconic Baykeeper questions whether the County leasing program can or should be implemented in fact. We look forward to learning of the DEC's comments (we understand they are submitting comments as an involved agency) and whether they have addressed this matter themselves.

Thank you for your consideration of these comments.

Sincerely,

Matthew Atkinson
General Counsel
Peconic Baykeeper, Inc.

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DeWitt S. Davies, Ph.D.
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Re: Public Comment on proposed DGEIS for the Shellfish Aquaculture Lease Program in Peconic Bay and Gardiners Bay

Dear Mr. Davies:

These comments are respectfully submitted on behalf of North Sea Aquafarms, Inc., (hereinafter "NSA Inc.") a recently formed small, closely held company whose principals are east end fishermen looking to aquaculture as a viable alternative means of income. As such, NSA Inc. is a recent addition to the list of parties and participants having an interest in the captioned program. In the interest of full disclosure, you should be aware that I am a corporate principal of NSA Inc., as well as counsel to same. My personal and professional background encompasses the instant subject matter in that, prior to becoming a maritime and environmental attorney, I was a deckhand on several party fishing boats for approximately twenty years during the 1970's, '80's and '90's, and currently hold an active 100-ton USCG operator's license. In addition, my educational background is in the area of marine natural resource management and fisheries management law and policy. Moreover, I have practical experience in the realm of shellfish husbandry and aquaculture, having administered and executed a successful demonstration-level oyster hatchery/nursery for three years during my tenure at Long Island Soundkeeper Fund in Norwalk, CT., in partnership with Norm Bloom and Son, LLC, a corporate descendant of the Talmadge Bros. Oyster Co. of Connecticut. Thus, I am knowledgeable in the areas of instant concern, and in a sense I am also a "displaced fisherman," as are my current partners. With that said, we hereby offer our comments on the proposed DGEIS for your consideration.

First and foremost, NSA Inc. fully supports "Alternative 1B – Minimum Lease with Moderate Growth." As you know, the United States' seafood imports currently far exceed its exports – this deficit has been addressed by the federal government in the form of a policy statement expressing the need for the U.S. to increase its aquaculture production five-fold by the year 2025. *See* Report of the Marine Aquaculture Task Force: Sustainable Marine Aquaculture, *at* p. 1 (2007). The proposed Alternative 1B fully comports with the letter and spirit of this

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federal policy, while at the same time balancing the needs of existing uses of the Peconic estuary as well as preserving and even enhancing the existing ecological condition of the system. Moreover, in consideration of the current and expected future state of wild fish and shellfish stocks and their associated fisheries, Alternative 1B provides a much-needed mechanism to ensure the continuance of Suffolk County's historic maritime tradition, by providing alternative maritime employment to displaced fishing families and the existing infrastructure that depends on them. Overall, Alternative 1B is a well-informed, well-considered proposal that should be implemented for the combined benefit of the concerned towns, the county and the Peconic estuary itself.

Given the overarching efficacy of the proposal itself, however, there are a few minor issues that are of particular concern that we would like to address at this time. First is the issue of "grandfathering" existing Temporary Assignments into long-term leases upon full implementation of the proposal, and the "cut-off" deadline of December 31, 2007 for such treatment. Although we understand that the policy purpose for such a deadline is to avoid a "land-rush" by speculators in the final years of the TMAUA program prior to implementation of the county lease program, we submit that such a deadline is somewhat arbitrary and will discourage legitimate prospective participants in the future. Thus, we would offer an alternative solution: allow all TMAUA holders, regardless of the time of entry into the program, the ability to convert to long-term leases upon full implementation, BUT ONLY if they are able to show continuous (year-to-year) active use of their Assignments for the period that they have held such Assignments. Such an approach would still deter last minute speculation and fallow Assignments, but would allow legitimate late-comers the expectation of long-term stability, a very important factor for fledgling businesses dependent on such use.

On a similar note, the current limitation of one Assignment per person or entity is onerous and should be revisited. While we agree that some limitation must be placed on Assignments to avoid monopolization and over-industrialization, one Assignment may not be sufficient for the needs of a small company seeking moderate expansion. The DGEIS points out that 35% of current Assignment holders find one Assignment to be insufficient for their needs. Furthermore, the document also states that the ability to re-locate stocks in the face of brown tide events or other ecologically disturbing events such as 100 year nor'easters would be advantageous and perhaps even necessary to preserve a crop. *See* p. 230. The current policy of one Assignment per person or entity runs counter to this observation. For these reasons, we would suggest that the limitation be raised to perhaps a maximum of five Assignments (or less) per person or entity, but certainly more than one is necessary for stability and safety of a given crop. Such limitation could also be geographic in nature; for instance, a maximum of three Assignments per person or entity, but no more than one or two in each embayment (i.e.: one in Great Peconic Bay, one in Little Peconic, one in Noyack or Napeague). This approach would

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provide the safety factor alluded to on p. 230 of the DGEIS, but would still avoid monopolization of prime grounds by any one entity.

With respect to harvest methods: although NSA Inc. will not be engaging in mechanized harvest methods such as dredging (we will be using off-bottom rack & bag systems), we are in favor of limited use of mechanical dredging for on-bottom operations. As long as well considered limitations are imposed such as knife size, bag size and pump horsepower limitations, as well as time and area limitations, it is clear that closely monitored dredging operations pose no long-term threats to the viability of the ecology of the Peconic estuary or to the other users of the system. I can personally attest to this assertion, having grown up fishing in both Oyster Bay and Great South Bay. As the DGEIS points out (and I can add my personal affirmation of this statement), Frank M. Flower & Sons has been using mechanical dredging techniques for decades, yet the healthy ecological attributes of Oyster Bay have remained intact. However, I have also seen how the overuse of such mechanized methods can have a devastating impact on sensitive estuarine habitats, as in the case of Blue Point Oyster Company in Great South Bay. Thus, while unchecked use of mechanical dredging is certainly detrimental, carefully regulated use of these methods, as described on p. 232 of the DGEIS, certainly has its place in the Suffolk Lease Program and should remain an option for those wishing to employ them.

Thus, to restate, NSA Inc. supports Alternative 1B, with the above provisos. The plan embodied in the DGEIS is obviously the product of much study, public input and patient husbandry on the part of the county and other participants, and as such represents a fine example of cooperative development of public policy. NSA Inc. and its principals thank you for the opportunity to comment on this process, and we look forward to further participation both in its planning and implementation.

Respectfully submitted,

Philip L. Curcio
Counsel and corporate principal
North Sea Aquafarms, Inc.

GROUP FOR THE EAST END

FAX COVER SHEET

Date: May 1, 2008
Send to: Suffolk county Department of Planning

3 PAGES (Incl. cover)

Fax #: (631) 853-4044

From: Jennifer Skilbred
Contact #: (631) 537-1400, ext. 18

COMMENTS:

Please enter the following comments regarding Suffolk county's Shellfish Aquaculture Lease Program in Peconic Bay and Gardiner's Bay – DGEIS into the record. Thank you, and please contact me with any questions.

Sincerely
Jennifer Skilbred

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May 1, 2008

DeWitt Davies
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Re: Suffolk County's Shellfish Aquaculture Lease Program in Peconic Bay and Gardiner's Bay – Draft Generic Environmental Impact Statement

Dear Mr. Davies,

I am writing on behalf of Group for the East End to express our comments on the Draft Generic Environmental Impact Statement (DGEIS) for Suffolk County's Aquaculture Lease Program in Peconic Bay and Gardiner's Bay.

For the record, Group for the East End is a professionally staffed non-profit environmental advocacy and education organization. The Group has been committed to protecting the natural environment, rural character, and quality of life on the East End of Long Island for over 35 years. Group for the East End was intricately involved in the creation of the Peconic Estuary Program, and the nomination of the Peconic Estuary as an estuary of national significance.

To ensure an effective and environmentally sound program, there are a few major issues of concern, including the need to keep this project small scale and to continue to view it as an adaptable experiment, as well as the need for strong coordination between Suffolk County, as the leasing agency, and New York State Department of Environmental Conservation (DEC), as the regulatory agency, for minimizing conflicts to the public, and assuring the appropriateness of all selected locations.

It is clear from reading section 4.1.2 on Natural Resource Impacts in the DGEIS that there are still many unknowns as to the probable impacts of increased aquaculture in the Peconics. The program does a good job of remaining as a limited experimental project. The limited size and scale of the program (at 1% per year over 10 years) is essential as is the need to continuously monitor and review the program and its impacts on the estuary as a whole. It will be very important to keep up with annual reviews, the five-year review, and to follow through with an

GROUP FOR THE EAST END

environmental review after ten years, before the program is expanded in any way. However, if adverse effects are being seen before the ten-year review point there may be a need to do a full review earlier.

Separating the aquaculture regulatory process and the leasing of bottomlands for aquaculture may have some negative side effects. It will be important to ensure that there is solid communication between the County and the NYS DEC in order to coordinate efforts to provide adequate environmental protection with the proposed program. The actual uses of the lease sites, although they fall under the regulatory heading, will be major determining factors in the impacts that may be imposed on the estuary. Some of these issues include: problems associated with shellfish relaying from uncertified waters (i.e. possible pathogen introduction) and problems associated with hydraulic dredging.

It may be important to review the relationship between the proposed project and the NYS Public Trust Doctrine again, as the DGEIS does not clearly show that there is no major conflict here. Leasing public lands for private gain should only be done if the public's benefit will be greater than its cost. There is no clear demonstration that the benefits to the public outweigh the costs (and this may not be known until after the initial five or ten-year reviews, in which case this issue should be incorporated into the review.)

In regards to the Shellfish Cultivation Zone it seems wise for Suffolk County or the NYS DEC to assume the responsibility of ground truthing the appropriateness of possible lease sites before the lease is granted whether or not it is contested by an outside party. The cost of this could be incorporated into lease fees or other such fees.

We ask that you review these comments and keep them in mind in developing the FEIS and in future decision-making for this project. Please contact me with questions or for further information. Thank you for taking the time to ensure the protection of our precious Peconic Estuary.

Sincerely,

Jennifer Skilbred

Jennifer Skilbred
Environmental Advocate

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Alexander B. Grannis
Commissioner

May 21, 2008

Dr. DeWitt S. Davies
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Dear Dr. DeWitt;

Thank you for the opportunity to review the DGEIS for the Shellfish Aquaculture Lease Program in Peconic and Gardiners Bay proposed by Suffolk County. The following comments are provided to summarize the outstanding concerns and issues that were identified by the staff of the Region 1 Office of Natural Resources:

The designation of the Peconic Bay estuary system as a National Estuary attests to its importance as a public and natural resource. The evidence that this area provides critical and complex spawning, nursery and forage habitat to a wide variety of commercially and recreationally important species is well documented. Any aspect of the proposed Shellfish Aquaculture Lease Program that would adversely impact existing habitats and their dependent species within the estuary must be carefully assessed, particularly given the potential for large scale acreage of affected underwater lands resulting from this proposal.

The principal concerns identified by regional staff relate to: impacts of harvesting gear used for on- bottom shellfish aquaculture operations, including specific assessments of the impacts to species with currently depressed populations such as winter flounder; potential community and productivity shifts within the estuary due to stocking and overstocking; total build-out potential; impacts to existing commercial and recreational uses within the estuary, including existing pot fisheries and a review of more ecologically sensitive alternatives that may still effectively satisfy the County's lease requirements. These concerns are not satisfactorily addressed in the DGEIS.

The DGEIS fails to adequately address the potential impacts of the proposed leasing and aquaculture activities on the natural resources of the Peconic Bay system. Harvesting techniques associated with this proposal, such as the use of hydraulic shellfish dredges, are a significant concern. On-bottom cultivation and harvest of hard clams is a major component of the proposed shellfish leasing program which is likely to affect large amounts of underwater acreage under this program. Hydraulic clam dredging has been found to produce the most dramatic and immediate effects on seabed habitat of any gear type. Recent reviews of the impacts associated with both hydraulic and mechanical dredging have identified significant concerns about the effects of these dredges on benthic communities and on ecologically sensitive areas, such as those that serve as finfish nurseries. The DGEIS does not adequately address or review the well-documented, significant adverse impacts of chronic hydraulic clam

dredging on marine resources and habitats.

The DGEIS fails to sufficiently consider the impacts of harvesting gear on marine finfish and their habitats, particularly in light of on-going efforts to rebuild and restore local finfish stocks, such as winter flounder. The Peconic Bay estuary is one of New York's most important marine finfish nursery areas, providing habitat for over 80 species of finfish. Many of the finfish species that are found in the estuary occur as juvenile and small forms of valuable marine and recreational finfish resources, including weakfish, scup, winter flounder, black sea bass, tautog, northern puffer, windowpane flounder, butterfish, atlantic mackerel, bluefish, and cunner, as well as important forage species including the bay anchovy, Atlantic silversides, menhaden and Atlantic herring. These egg, larvae and juveniles have been documented to occur at locations and depths throughout the Peconic Bay system. They represent the most vulnerable life stages of marine finfish and have been shown to be highly sensitive to habitat alteration, such as those resulting from the proposed shellfish dredging activities. The DGEIS presents a list of species NYSDEC has found in Peconic Bays, but fails to indicate that the majority of the fish found in this survey occur during highly sensitive life stages, including postlarval, young of the year and small juvenile finfish.

The DGEIS specifically fails to address the impacts of the proposed activities, including harvest activities, on eggs, larvae, and juvenile marine finfish and the habitats they rely on, nor does it address the consequent loss in productivity associated with these impacts on the future harvest and landings of commercial and recreational fisheries or the economic impacts associated with those losses. Impacts associated with on-bottom aquaculture activities on egg, larval and juvenile or small forms of marine finfish include both physical and biological impacts. Direct losses due to the physical effects of dredging include entrainment, removal or burial, turbidity, and increased sedimentation resulting from the operation of the hydraulic shellfish gear. Additional indirect mortality from increased turbidity and sedimentation would occur due to the sediment plume created by the dredge itself. The biological impacts associated with dredging include loss of habitat, changes in prey availability and increased predation.

As a species of particular concern, the DGEIS should specifically address how the harvest activities associated with the proposed aquaculture use will affect winter flounder spawning, eggs, larval, postlarval and juvenile life stages and the habitat they rely on. The waters of Peconic and Gardiners Bay are designated as Essential Fish Habitat for winter flounder, which spawn in New York's bays, harbors and estuaries from December through April. Winter flounder eggs are demersal and adhesive. Although larval winter flounder are pelagic, they are strongly associated with the bottom. Postlarval, young of the year, yearling and adult winter flounder have been documented at locations throughout the Peconic Bay system, although current stock assessments indicate that winter flounder populations are at critically low levels. The Atlantic States Marine Fishery Commission's Fishery Management Plan for winter flounder specifically recommends a prohibition on dredging to minimize mortality of egg, larval and post-larval flounder. The commercial harvest activities associated with this program appear to be in conflict with that recommendation. The DGEIS should specifically address the impacts of repeated, frequent shellfish dredging activities on winter flounder populations, including the adverse impacts associated with increased turbidity and sedimentation, entrainment and burial of eggs and larvae, winter flounder predator/prey interactions, feeding, reproductive success, spawning recruitment, habitat and future recreational and commercial landings.

Harvesting techniques, which may use towed, hydraulic or suction dredges to capture shellfish in bottom sediments, significantly impact benthic communities, including non-target organisms such as sand dollars, crustaceans, molluscs, worms and finfish. Resultant changes in benthic community abundance or diversity can cause alterations to marine food webs with important consequences for marine fish populations. Many of the fish species that comprise New York's important demersal fisheries are benthic predators, including species such as weakfish, summer flounder, winter flounder, scup, tautog, black sea bass, and striped bass. The

DGEIS fails to address the impacts of dredging on non-target benthic organisms, including predator/prey interactions, benthic food web effects, biodiversity, and declines in infaunal abundance. The DGEIS should address recovery rates and timeframes for benthic communities subjected to frequent and repeated use of these harvesting methods.

The DGEIS does not adequately review and address the impacts of the proposed activities on benthic communities, including impacts on non-target mollusc and crustacean species that inhabit the Peconic Bay system and that provide a critical forage base for many important and valuable marine fishery resources. Biogenic organisms that live at the sediment surface (such as sponges or *Codium*) or that create mounds, tubes and burrows within the sediment provide microhabitat structure for early life stages of marine finfish. These microhabitats are critical habitat features for many organisms, including post-settlement marine finfish. The diversity of benthic infauna and epibiota provides essential forage and habitat features that sustain many marine finfish populations. The structural complexity of the seabed provides protective cover for many species of fish. Dredging removes seafloor features and surface irregularities, creates furrows and trough marks, and re-suspends sediments and lowers sediment consolidation. Changes to the seabed topography resulting from harvest dredging increases mortality through increased predation. Resuspension of sediments has also been shown to alter the benthic/pelagic nutrient flux which could potentially have ecosystem wide consequences on phytoplankton growth. Dredging activities alter sediment composition by removing the larger sand fractions and causing a decrease in the compaction and binding of bottom sediments, resulting in an alteration of the composition of infauna. The DGEIS fails to address how physical changes to bottom sediments, topography and microhabitat, will affect non-target organisms. Similarly, the impacts of increased turbidity and hypoxic effects should be more fully explored.

The DGEIS fails to adequately address the potential effects of ecosystem-wide alterations to the Peconic Bay system due to the proposed large scale increase in filter feeding bivalves. Potential impacts to other herbivores and the primary productivity of the water column from the proposed extensive, large scale shellfish aquaculture program (e.g., high stocking biomass and filter feeding capacity) should be more fully explored. Overstocking can result in decreased planktonic biomass and a shift in pelagic communities and food webs. Changes in primary productivity or variations in the types or amount of phytoplankton available can limit secondary productivity and have cascading effects on finfish and benthic productivity. The DGEIS does not adequately address these potential effects.

In addition, the DGEIS does not address the cumulative impacts of the full grow-out potential of the leasing program, particularly in terms of large scale alterations to marine habitats, primary productivity and marine food webs, turbidity, sedimentation and hypoxia effects. Although the DGEIS describes the leasing program as an incremental expansion over time, it does not provide an assessment of the full cumulative effects or the total acreage that can be potentially affected under this leasing plan. Since there appears to be no limit on the total amount of acreage that can ultimately be leased out of the 110, 000 acres involved in the program, the DGEIS should address the potential impacts to benthic, finfish and aquatic resources of having the entire acreage available for leasing.

The DGEIS fails to adequately address the impacts of the shellfish leasing program on existing commercial and recreational fisheries. For example, there are extensive whelk, eel, scup and black sea bass pot fisheries in the Peconic Bay system. However, the DGEIS does not accurately depict the current extent and locations of these existing commercial fisheries, with particular reference to existing whelk and finfish pot fisheries. Increasing off-bottom and on-bottom shellfish aquaculture activities are likely to interfere with existing fisheries, particularly since these fisheries are not accurately represented in this document. Although the DGEIS indicates that aquaculture lease holders may voluntarily allow pot fishermen to set gear on their

leased acreage, lease holders may also choose not to allow gear to be set. In all likelihood, commercial fishermen can expect to lose access to historically and previously fished sites. Similarly, large buoy fields will limit traditional areas for recreational fishermen and boaters. This impact has already been noted for existing off-bottom culture zones.

Finally, the DGEIS fails to consider more ecologically sensitive alternatives, such as prohibitions on destructive harvest gear types in leased areas and restricting leasing programs to shellfish restoration projects. These alternatives provide an opportunity to mitigate adverse impacts associated with the current proposal, provide greater public benefit and still effectively satisfy the County's lease requirements.

Once again, we appreciate the opportunity to review and comment on this DGEIS for the Shellfish Aquaculture Lease Program in Peconic and Gardiners Bay proposed by Suffolk County. Thank you for your thoughtful consideration of our comments.

Sincerely,

Charles T. Hamilton

Charles T. Hamilton
Regional Supervisor of
Natural Resources

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Alexander B. Grannis
Commissioner

June 24, 2008

DeWitt S. Davies, Ph.D.
Chief Environmental Analyst
Suffolk County Dept. of Planning
PO Box 6100
Hauppauge, NY 11788-0099

Re: Draft Environmental Impact Statement for the Shellfish Aquaculture Lease Program in Peconic Bay, Suffolk County, NY

Dear Dr. Davies:

This letter provides formal comments from the Bureau of Marine Resources on the subject document submitted by Suffolk County Department of Planning. Although it appears much effort has occurred over development of the document, we have identified deficiencies in three areas; 1- inadequacies in the extent and level of impact analysis relative to marine resources; 2 - Lack of State Environmental Quality Review Act coordination with DEC's Division of Environmental Permits; and 3 - clarification on coordination between Suffolk County and DEC if the program is implemented.

In general, the DGEIS requires further discussion of the potential impacts of the proposed action. In some sections, the impact analysis is cursory and in others it is entirely lacking. The DGEIS presents the physical and biological setting, but does not provide an in-depth analysis of how these resources will be affected. The summary table of impacts is not sufficient to document and address the impacts to habitat, fish and benthic organisms. Overall, we believe from a habitat perspective, shellfish aquaculture, especially on a small scale, can likely coexist with other uses and our fishery resources in the Peconic Estuary given proper placement, monitoring and controls. However, this is predicated on a rigorous assessment of all potential impacts.

Since this proposed project will involve both actions by Suffolk County with subsequent actions by DEC, SEQRA coordination between the County and State is imperative for efficient review and potential implementation. Lack of adequate impact analysis in the DGEIS could result in DEC requiring a supplemental analysis before State approvals/permits could be issued which could produce significant delays in program implementation. Therefore, a complete analysis of all the impacts associated with the project, whether under State or County jurisdiction, is warranted for the project to progress efficiently.

Additionally, close coordination between the County and State is imperative for this program to be viable. Although separate actions would occur under the program, specifically, County issuance of underwater land lease, State issuance of aquaculture and possibly other permits; the granting of these actions must be coordinated as a single action to not mislead potential participants in assuming approval

from the State once the County has issued a lease. We recommend that operative guidelines be developed that have adequate sideboards to ensure protection of the Peconic estuary.

Attached are detailed comments on the DGEIS. We hope these comments will provide useful input in improving the document. We can provide further clarification on any of the comments. Please contact either me or Debra Barnes in our Shellfisheries Section if you have further questions.

Sincerely,

James J. Gilmore
Chief, Bureau of Marine Resources

cc. Peter Scully
Roger Evans
Ken Koetzner
Debra Barnes

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Alexander B. Grannis
Commissioner

Below, please find questions, comments, concerns, and suggestions submitted by the Bureau of Marine Resources on the Draft Generic Environmental Impact Statement (DGEIS) for the proposed Shellfish Aquaculture Lease Program in Peconic Bay and Gardiners Bay, Suffolk County, NY. The Bureau consists of three program sections; Marine Habitat, Shellfisheries, and Finfish & Crustaceans. Comments are provided for each of the Bureau sections.

Marine Habitat Section has provided comments 1-19 specifically relating to marine habitat issues.

1) *ES-3 Impacts (Pg 10-12) & 2.1.1 Background of Program Development (Pg 25-28) & 4.1.1.7 Critical Natural Resource Areas (Pg 176-187) & 4.1.2 Impacts (Pg. 197-228)*
Shellfish Cultivation Zone area determination process did not adequately address nor take into consideration the importance of fish, essential fish habitat, and fish spawning habitat. An impact analysis of the effects of the proposed leasing program on fish, essential fish habitat, and fish spawning habitat was not conducted in this DGEIS as was clearly outlined on Page 4 of the Draft Scoping Document, April 2007: "Essential Fish Habitat: The proposed action should address the potential impacts of aquaculture activities on finish resources and essential fish habitat for the large number of fish species found in the estuary. The estuary provides important juvenile fish habitat for species such as winter flounder, weakfish, bluefish, scup, blackfish, summer flounder, puffers and butterfish". The DGEIS only addressed impacts on fisheries.

2) *2.1.1 Background of Program Development (Pg 27) and Figure 2 "Environmental and Socio-Economic Sensitive Areas.*
While information on current and historic locations of eelgrass beds was collected and used to create the "Eelgrass bed" layer in Figure 2, it should be noted that the location of historic populations is important in considering areas where restoration, either natural or human initiated, may be possible. Perhaps the "Eelgrass Bed" layer title in Figure 2 can be changed to "Current and Potential Future Eelgrass Beds".

3) *2.6 Components of Proposed Lease Program (Pg 48)*
How will leases be assigned? And will there be prioritized areas for leases within the Shellfish Cultivation Zone?

4) *2.6 Components of Proposed Lease Program (Pg 49)*
General component "5. Five Year Program Reviews" and other various program or lease reviews/assessments, "data on environmental condition of the bay, include that from the ongoing County water quality monitoring program, will be utilized in the assessment". It is highly advisable during this Five Year Program review and other program assessments that data, information and results resulting from the current and ongoing Benthic Mapping project in the Peconic Bays must be considered and ways in which to integrate said information discussed.

5) *2.6 Components of Proposed Lease Program (Pg 50)*
General component "13. Town and Public Review of Lease Applications"- When proposed lease applications are public noticed and comments/objections are solicited and submitted by stakeholders, what

will be the process/criteria Suffolk County will use for considering said comments/objections? Will the County coordinate lease applications with NYSDEC to ensure proper alignment of programs and regulations? How will objections be resolved?

6) *2.6 Components of Proposed Lease Program (Pg 51)*
General component "14. Documentation of Natural Non-Productivity of Proposed Lease"- Should it be the responsibility of the proposed lease applicant to provide proof of the presence of either significant natural shellfish productivity or no significant natural shellfish productivity, and not that of the public? What will the County accept as "adequate documentation"?

7) *2.6 Components of Proposed Lease Program (Pg 51)*
General components "11. Annual Lease Rent" and "17. Limit of Lease Ownership and Sub-Leasing"- Have costs of leases been proposed? Will there be a cap on sub-lease costs?

8) *2.6 Components of Proposed Lease Program (Pg 55)*
General component "33. Leases for Shellfish Resource Restoration"- Will leases need to be obtained by entities interested in conducting general Estuary-wide shellfish restoration programs/projects? Will those routine restoration activities be precluded and not allowed within areas of the Shellfish Cultivation Zone unless leases are obtained? Will the on-bottom placement of shell, for purposes of restoration, be allowed under leases?

9) *2.7.2 New York State Requirements- Tidal Wetlands Program (Pg. 79-80)*
"the waters of the Peconic and Gardiners Bay are classified under 6NYCRR Part 661 as Littoral Zone (LZ); and therefore, NYSDEC regulations promulgated under the Tidal Wetlands Act would require this DGEIS to identify and mitigate any impacts as designated by the Tidal Wetlands Act that may be associated with the proposed lease program". While the 1974 TW maps to show the LZ classification, Part 661 states that "there shall be no littoral zone under waters deeper than six feet at mean low water".

10) *4.1.1.2. Water Quality (Pg 129-156)*
Significant data and information has been presented addressing water quality and water quality concerns and issues in Peconic and Gardiners Bays; however, there is no mention of the USEPA approved Total Maximum Daily Loads (TMDLs) that exist for several Peconic waterbodies with pathogen and dissolved oxygen impairments. Both TMDL documents ("Peconic Bay Pathogens TMDL", September 2006 and "Total Maximum Daily Load for Nitrogen in the Peconic Estuary Study Area, Including Waterbodies Currently Impaired Due to Low Dissolved Oxygen: the Lower Peconic River and Tidal Tributaries; Western Flanders Bay and Lower Sawmill Creek; and Meetinghouse Creek, Terrys Creek and Tributaries", Sept 2007) are available at: http://www.dec.ny.gov/chemical/23835.html

11) *4.1.1.2. Water Quality (Pg 132)*
The statement "an area is immediately closed if a single coliform sample is found to exceed 70mpn/100ml" is incorrect and should be deleted.

12) *4.1.1.5. Submerged Aquatic Vegetation (current and historic) (Pg 166-172)*
Significant time is spent discussing the Cashin Associates Peconic Estuary Program Submerged Aquatic Vegetation Study (1996). While this 1996 study did map several species of Peconic SAV's, an Estuary-wide acreage was not quantified. A more recent inventory/map and quantification was conducted since then (Tiner, R.W., H.C. Bergquist, D. Siraco, and B.J. McClain. 2003. An Inventory of Submerged Aquatic Vegetation and Hardened Shorelines for the Peconic Estuary, New York. U.S. Fish and Wildlife Service, Northeast Region, Hadley, MA. Prepared for the Peconic Estuary Program of the Suffolk County Department of Health Services, Office of Ecology, Riverhead, NY. 47 pp http://library.fws.gov/Wetlands/peconic03.pdf) yet only briefly mentioned on Pg 170. More time should be spent discussing the presence and density of SAV beds as identified in the 2003 report than the 1996 report.

13) *4.1.2.6. Displacement and Attraction of Species (Pg 206-207)*
Please address the potential impact for aquaculture activities and gear to attract undesirable non-native, invasive, and/or nuisance species.

14) *4.1.3.7. Establish Buffers Around Leases and Environmental Resources (Pg 232)*
As identified as a mitigation effort in response to leasing program impacts on natural resources, no buffer zone width/area between or surrounding leases, beside the 1000ft shoreline buffer required for aquaculture leases, has been identified or proposed in the DGEIS. Also, will there be, or should there be a limit on how many leases are located within a given area?

15) *Section 4: Environmental Setting, Impacts and Mitigation*
For each of the "existing conditions/settings" addressed in each of Section 4's subheadings (4.1 Natural Resources, 4.2 Socio-Economic and Cultural Impacts, 4.3 Transportation....etc.), a corresponding thorough impact analysis must be conducted. The DGEIS does address impacts in Section 4, but only selective impacts; not necessarily pertaining directly to each of the preceding "existing conditions/setting" as a DGEIS should.

16) While the project study are consists of approximately 110,000 acres of underwater lands in Peconic Bay and Gardiners Bay, there is no quantification provided of underwater land acreage within the proposed Shellfish Cultivation Zone.

17) Clarification is needed for allowable lease acreage (300 acres for the 1st 5 years and up to 600 acres by the 10th year) given consideration that there is no size limit for leases on existing oyster grants. This will likely have implications on the expansion of mechanical harvesting and related impacts.

The Shellfish Management Section provided comments 18-64.

18) Pg. 32 - The project area which includes Reeves Bay, described as the Inner Estuary, is outside Suffolk County's leasing authority established pursuant to Section 13-0302 of the ECL.

19) The project area which includes West Neck Harbor, Long Beach Bay and Hallock Bay, described as the Middle Estuary, is outside of Suffolk County's authority for leasing.

20) The project area which includes Coecles Inlet, Three Mile Harbor, Accabonac Harbor, Napeague Harbor and Lake Montauk, described as Outer Estuary, is outside of Suffolk County's authority for leasing.

21) Pg. 52 - Existing Temporary Assignments within the shellfish cultivation zone can convert to 5 acres leases without benthic survey requirements. Are these leases limited to Off-Bottom Culture only as currently specified under a Temporary Marine Area Use Assignment? If not then ground truthing of the natural productivity of these areas is recommended.

22) Pg. 53 - 25. Pending Applications for Temporary Marine Area Use Assignments (TMAUA) received prior to12/31/07 will be included in the lease program. How will TMAUA's received after 12/31/07 be handled by Suffolk County and will these sites be considered part of the <u>new</u> lease area of up to 300 acres in five years.

23) Pg. 53 - 27. Lease Establishment on Grants - Recommend that there should be an acreage limit on leases established on private oyster grants. Establishing a limit on acreage for leases on grant lands will reduce user conflicts and potential impacts from harvest gear and be more consistent with the overall framework for the proposed leasing program in Peconic and Gardiner's Bay. This will further support a framework for the development of aquaculture that is consistent with the types of aquaculture that are

currently undertaken in the PBS (Peconic Bay System).

24) Pg. 54 - 28. Phased Expansion of Leases on Fallow Grants - Recommend that fallow grants located east of Shelter Island (which comprise approximately 2,000 acres) be excluded from the leasing program. These grants should not be included in the leasing program due to established commercial finfish, crustacean and whelk fisheries and natural hard clam beds which have been documented on oyster grant lands in this area. Further recommend that fallow grants located in the proposed shellfish cultivation zone west of Shelter Island be subject to benthic surveys if leases are desired. The issuance of leases on fallow grants in this area should be limited to no more than 10 acres which is consistent with new leases in this program. Expansion of leases on grants can be considered after careful review of the cultivation activities conducted under the prior lease and documented need for the expansion of the aquaculture activity at that site.

25) Pg. 55 - 29. One-Percent per Year Increase in Acreage for Aquaculture - This figure should not include the total acreage of existing private oyster grants within the study area given the fact that less than 25% of the existing private oyster grants are currently being used for cultivation of any type of shellfish.

26) Pg. 55 - 35. Potential for issuing Leases Larger than 10 Acres - This should also apply to fallow oyster grants located within the shellfish cultivation zone.

27) Pg. 69 - There are several incorrect references to citations made for ECL Sections which include general prohibited acts and regulatory authority rather than specific permits from DEC.

28) Pg. 70 - Article 13, ECL 13-0321 - The reference to permitting requirements under ECL 13-0309 is not correct and should be ECL Section 13-0319.

29)Pg. 71 - Contains inaccurate descriptions of the various sections and programs in BMR.
30) Pg. 72 - Permit for the Possession, Transportation, Taking and Handling of Shellfish - Reference to 6NYCRR Part 43 is incorrect and should be Part 42.

31) Shellfish Shipper's and Processor's Permit - Should include reference to Part 42;
- Marine Hatcheries, Off-Bottom and On-Bottom Culture Permits - Incorrect reference to Part 43; only Part 48 applies.

32) Pg. 73 - Permit for Taking of Surfclams should reference Part 43.

33) - 6NYCRR Part 43 - Only applies to the taking of surfclams by mechanical means from the area in Gardiner's and Napeague Bays located east of a line from Orient Point to Hog Creek Point. This could conflict with leases for aquaculture if this area is included in the shellfish cultivation zone.

34) Pgs. 73/74 - Part 45 - Transplanting Shellfish - The EIS incorrectly states that if the County transplants or imports shellfish they are exempt from permit requirements. The exemption only applies to individual shellfish transplant harvester permits that may be associated with a shellfish transplant project. Any person and municipalities or political subdivisions are required to comply with permit requirements for shellfish transplant or importation permits (see Part 45.3(a)(1).

35) Pg. 74 - Part 48 - Inaccurate statements made on prohibition of sale of product less than legal size. The regulations allow sale of marine plant and animal life of less than legal size as specifically defined under the provisions of ECL Section 13-0316.

36) Part 49 - Allows a size exemption for oysters cultivated or transplanted under permit from DEC.

37) Pg.'s 83-87 - Reference to various town shellfish codes - These codes go beyond the authority of the

various towns and includes species not defined under the ECL as "shellfish" which are defined as all types of clams, mussels, oysters and scallops.
- Town of Southold - No authority over blue crabs, periwinkles, conchs; these are defined as "shellfish" under town code - Town code cannot be less restrictive than state law;
- Town of Shelter Island - No authority over blue crabs, shrimp, crabs, lobsters and periwinkles;
- Town of Southampton - No authority over crabs, shrimp, periwinkles, conchs, quarterdeckers;
- Town of East Hampton - No authority over blue crabs, conchs, shrimp, periwinkles, lobsters and crabs.

38) Pg. 88 - Summary of Various Permits - Under the Shellfish Culture Permit, this is subject to review by the Regional DEC Environmental Permit's office and may include other applicable permits issued by DEC;

39) Bed Permits - These permits apply to "privately controlled lands owned, leased or rented for cultivation and marketing of shellfish" and would apply to the lease program.

40) Pg. 94 2.9.2 - Harvest Methods - "Harvesting of shellfish on public underwater lands is restricted to hand-operated methods" is not accurate. There are certain species exceptions that allow the use of mechanical harvesting gear on public or unleased underwater lands such as bay scallops, blue mussels, surfclams and use of a pot hauler to retrieve a clam rake back onboard the harvest vessel (see ECL 13-0309(3)).

41) Pg. 110 - Table on Oyster Grant Parcels - Oyster Grant No. 58 (Map ID) in Little Peconic Bay is approved for culture of hard clams.

42) Pg. 111 - TMAUA's are also subject to review by New York State Office of General Services.

43) Pg. 116 - State Relay Program - references to "depuration" should be changed to "natural cleansing".

44) Pg. 121 - Statement that each volunteer in the SPAT program has the potential to grow 50,000 to 100,000 shellfish is incorrect. This may apply to the total production from all volunteers involved in this program.

45) Pg. 133 - Reference to Northwest Harbor being uncertified is incorrect. The closure applies to Northwest Creek.

46) Pg. 172 - 4.1.1.6. Shellfish Pathogens/Disease/Exotic Species
This section failed to mention the distribution and prevalence of QPX in wild and transplanted clams in certain locations of Peconic Bays and other locations in the marine district.

47) Pg. 197 4.1.2.1 - Amplification of Native and Exotic Shellfish Diseases - This section only addresses the potential introduction of shellfish diseases through importation of seed, contaminated water, containers, etc. It does not describe the potential occurrence of shellfish diseases due to planting of shellfish at high densities in either off-bottom or on-bottom culture which is well above the densities typically observed in natural populations. Intensive aquaculture activities increase the potential for QPX, *Dermo* and other parasitic shellfish diseases. Best Management Practices for the aquaculture industry are recommended to reduce potential for occurrence of native and exotic diseases.

48) Pg. 200 - The description of various suction dredges includes a reference to cutterhead dredges. The cutterhead dredge is used for maintenance (sediment type) dredging projects and is not used for shellfish harvest.

49) Pg. 201-202 References and discussion in this section about scallop dredges should clarify that they are referring to sea scallop dredging and not the typical dredges that could be used in Peconic Bays. This

section should provide a better description of the types of harvest gear, frequency of harvest, and scale of operations that are likely to take place under the proposed action. The literature cited provides information on impacts from a variety of mechanical harvest gear that may not be applicable to the types of gear that would be used in an aquaculture operation.

50) Pg. 209 Turbidity Plumes - Reference is made to turbidity plumes in subtidal and intertidal areas. Shellfish dredging does not occur in the intertidal area in New York and the lease program area will only include subtidal areas. This section is relatively weak and does not attempt to quantify or describe the scale of mechanical harvest that would be expected to be undertaken in the proposed action.

51) Pg. 229 - 4.1.3.1 Limit Lease Number - The statement that "Under the proposed program, a one-percent growth rate for new leases will be implemented so that no more than five-percent of the total area currently used for aquaculture (approximately 5,982 acres) will be leased over the first five years." The total area currently used for aquaculture in Peconic and Gardiner's Bays on TMAUA's and oyster grants is less than 2,000 acres. The scale of the leasing program could be significantly reduced if limits were placed on the number of leases to be issued on private oyster grants.

52) 4.1.3.2 - Limit Lease Size - Under this proposal new leases are limited to 5 or 10 acres but leases on private oyster grants can potentially cover the entire grant site which in some cases, could involve several hundred acres. Further, the inclusion of all oyster grant lands in the shellfish cultivation zone regardless of conflicts with established fisheries, natural productivity of shellfish beds, and other identified conflicts is inconsistent with the statutory requirements of ECL 13-0302. However, some oyster grant lands may meet the criteria for inclusion under the new program. The aquaculture activities and harvesting of cultured shellfish that may potentially occur on the private oyster grants through the proposed leasing program has the likelihood to result in more significant adverse impacts to benthic communities, established commercial fisheries, wild shellfish beds, and sensitive marine life as compared to new leases limited to 5 or 10 acres. Leases on the oyster grants under the proposed action are more likely to involve on-bottom culture and use of hydraulic harvesting gear which may have adverse impacts to benthic communities and habitat. By limiting the number and size of leases that may be issued on oyster grant lands, potential impacts on benthic habitat and user conflicts in Peconic and Gardiner's Bays with be reduced. This is critical to the implementation of a leasing program that will allow the promotion of aquaculture to be undertaken without having any significant or undesirable impacts to the Peconic Estuary. This will help to address enforcement issues and reduce the potential for harvest of naturally occurring shellfish and displacement of commercial and recreational fishermen from large tracts of public lands.

53) Pg. 4.1.3.6 Restrict Harvest Methods - This section has some inaccurate statements about use of mechanical harvest gear. Also, private oyster grant holders must obtain a permit from NYSDEC for on-bottom culture in order to cultivate any species of shellfish not just species other than oysters.

54) Pg. 233 - Establishing buffer zones - may help to mitigate conflicts due to overlap but does not replace the statutory requirement for boundary surveys to be conducted of all leased areas.

55) Pg. 234 - Reference to seed being obtained from reputable dealer is inaccurate. Seed may only be obtained from licensed marine hatchery or on/off-bottom culture permit holders or as authorized under a shellfish transplant permit.

56) Pg. 245 - Majority of hard clams harvested from the PBS are cultured in racks and do not involve hydraulic dredging.

57) Pg. 246 - Oysters are typically harvested by non-hydraulic (dry dredges); the term non-mechanical is incorrect.

58) Pg. 258 - 4.2.1.1.3 Characteristics of Commercial Fisheries - ECL Sections and regulation listed for

commercial fishing licenses/permits for marine species are incorrect. It should be as required by Article 13 and 6NYCRR Parts 40 and 44.

59) Pg. 281 - Maritime Traditions - Reference to Three Mile Harbor does not apply because it is outside of the jurisdiction of the leasing program and would not be impacted (town controlled).

60) Pg. 286 - 4.2.3.3. - Limit Lease Size - This section has the potential to result in the most significant impact to the PBS if the size of leases are not restricted on private oyster grants. The limit on lease size should apply to private oyster grants. The concerns regarding potential use of hydraulic dredges to re-harvest cultivated shellfish and harvest of natural sets are amplified on oyster grant lands not restricted by lease size. Most oyster grants in the PBS are fallow and have not been used in several decades.

61) Pg. 288 - 4.3.2.1. Hazards to Navigation - This section incorrectly states that submerged aquaculture gear is required by DEC to have attached floating devices. Submerged gear is not required to have floating devices or buoys unless required by the US Coast Guard. Most culturists try to minimize the number of surface buoys to reduce navigational hazards.

62) Alternative 1B - Minimum lease with moderate growth - Generally support the proposed action of new leases of up to 300 acres over first five years subject to program review and update of shellfish cultivation map. However, we do not support the inclusion of all private oyster grants (those currently used for shellfish culture and fallow grants) in the leasing program. Approximately 75% of the existing private oyster grants are not being used for any type of shellfish culture and should not be grand fathered into the leasing program and without any restrictions on lease size, location and other criteria that new leases must comply with. The most controversial issues related to this proposed action are the potential harvest of wild shellfish, use of hydraulic dredges and impacts to benthic habitats. These issues can be significantly mitigated if the oyster grant lands were subject to lease criteria consistent with new leases and fallow grants located in Gardiner's Bay were eliminated from the shellfish cultivation zone.

63) The DEIS does not adequately describe the specific areas within the shellfish cultivation zone or the distribution of proposed leases within this zone which is necessary to assess the potential impacts of the proposed lease program. The assessment of harvest methods for cultivated product only considers the small scale leasing of 5 or 10 acre parcels (up to 300 over five years) which may be minimal and fails to address the impacts associated with the culture of other species on private oyster grants which will be more significant. Since the majority of the private oyster grants have been fallow for decades, they must be considered as "new" cultivation activities to be undertaken through the leasing program. The EIS does not consider the economic viability of culture operations on 5 or 10 acre leases as compared to unrestricted acreage on leases for private oyster grant holders. New lease holders would be at a significant economic disadvantage and would most likely not be able to compete with larger scaled operations on private grant lands. The proposed action does not address the concerns expressed by baymen and the department of the potential harvest of natural shellfish that may be located on potential lease sites and have previously been documented on private oyster grants.

64) The controlling laws for the granting of underwater lands for oyster culture in Peconic and Gardiner's Bays stipulate that the underwater lands may revert to the state when they fail to be used for oyster culture. Once the lands revert to the state they are supposed to be ceded back to the County for leasing. Therefore, this would imply that the legislative intent of the lease law and all previous law dealing with issuance of oyster grants would require any leases issued on fallow private oyster grants to be consistent with the scale and criteria for new leases in the PBS. These grant lands represent large tracts of underwater lands that have been utilized by the people of the state as "public lands" for a very long time. They should have reverted and therefore one can make a strong argument that these lands must conform to the same criteria as any other lease issued in this program.

Comments 65-74 relate to shellfish sanitation and specifically to the legal framework of state

and FDA issues.

65) Page 60 & other pages, 75: The acronym that is used for U.S. FDA in the DGEIS is USDA ? Perhaps they should change that to US FDA or just FDA. Most people use the USDA acronym in reference to the U.S. Department of Agriculture, not US FDA.

66) Page 64: The DGEIS lists section of the NYS ECL that govern aquaculture. ECL §11-0103 (9) was not included which provides definition of shellfish.

67) Page 67: Erroneous reference which states that ECL §13-0307 requires DEC to publish annual "reports" on the condition of shellfish lands. The ECL requires DEC to publish "notices" on the condition of shellfish lands. It is correct ("notices") on page 75.

68) Page 132 (last sentence in the second paragraph): "An area is immediately closed if a single fecal coliform sample is found to exceed 70 mpn/100ml." That is not correct. It should be deleted.

69) Page 132 & 133 (the paragraph that begins on the bottom of 132 and continues on 133): Shellfish water quality closures can be classified in two (not three) sub-categories: year-round closures and seasonal closures. They can be found in 6NYCRR, Part 41 "Sanitary Condition of Shellfish Lands."

70) The DGEIS tries to make conditionals seem like a separate sub-category. No area is designated as "conditionally uncertified" in Part 41. Conditional harvesting area programs are developed on an annual basis through the cooperative efforts of local Towns and NYSDEC-Bureau of Marine Resources' Shellfisheries Section. Once those programs area established, certain uncertified areas are designated as "conditionally certified" as provided for in section 41.4

71) Page 133: "Conditionally and seasonally closed areas may be opened by the NYSDEC when conditions warrant." That statement is not correct. Seasonally closed areas close on a date specified in Part 41 and reopen on a date specified in Part 41. DEC does not open and close them "as conditions warrant." Conditionally certified areas are "opened" and "closed" based on conditions that have been determined through an annual evaluation of the area(s).
Page 133: The last sentence in the first paragraph on the page seems completely *non sequitur.*

72) Page 133, second paragraph: This paragraph lists shellfish harvesting areas that are designated as uncertified due to impaired water quality. It lists the portion of Shelter Island Sound between Greenport and Dering Harbor. Most of that closure is an "administrative closure" or "closed safety zone" surrounding the outfall of the Shelter Island Heights sewage treatment plant. It is not really a water quality closure. The DGEIS actually makes this point in the third complete paragraph on Page 134.

73) Page 134, second complete paragraph: This paragraph makes it seem like the "conditional" program associated with the operation of the Shelter Island Heights STP is listed in Part 41. It is not. It is a conditional harvesting program that is evaluated each year and operated in cooperation with the Town of Shelter Island.

74) Page 136: The description of the location of the outfall of the Sag Harbor STP is not accurate. The outfall is within the area of Sag Harbor. It is located east of the North Haven bridge and west of the large rock jetty (breakwater) that protects Sag Harbor. This may be just a matter of semantics and what one believes is "the mouth of Sag Harbor."

Comments 78-89 relate to finfish issues from a resource management perspective.

78) Peconic Bays is one of New York's most important spawning and nursery areas for many marine finfish species, including weakfish, scup, winter flounder, black sea bass, tautog, menhaden, northern

and striped sea robins, hogchoker, windowpane flounder, butterfish, atlantic mackerel and cunner. The DGEIS presents a list of species NYSDEC has found in Peconic Bays, but fails to indicate that the majority of the fish found in the survey were vulnerable, highly sensitive life stages of these species, including postlarval, young of the year and small juvenile finfish. The DGEIS did not address the impacts of the leasing program on each of these species' egg, larval and juvenile life stages and their habitats, particularly the ecological impacts associated with on and off bottom culture and harvest methods.

79) The DGEIS fails to evaluate the impacts of aquaculture activities on benthic, finfish and aquatic resources associated with the full grow-out of this proposed action.

80) The DGEIS fails to address the impacts of dredging on non-target benthic organisms, predator/prey interactions, benthic food web effects, changes in biodiversity, and declines in infaunal abundance.

81) The homogenization of habitats is likely to result in the loss of ecological function in marine ecosystems as well. The DGEIS fails to address the effects of repeated disturbance of on-bottom shellfish aquaculture harvesting techniques such as dredging on the recovery of benthic communities and the potential impacts of habitat homogenization

82) The DGEIS fails to address how physical changes to bottom sediments, topography and microhabitat, as well as increase in turbidity and hypoxic effects resulting from repeated dredging disturbance will affect non-target organisms including egg/larval and juvenile marine finfish and their habitats as well as predator/prey interactions, benthic food chain, ecosystem processes, biodiversity, infaunal abundance, and subsequent recovery of bottom habitats.

83) The DGEIS does not address the physical impacts of the proposed shellfish dredging activities on egg, larval and juvenile finfish , including species that are known to inhabit Peconic Bays such as weakfish, scup, winter flounder, black sea bass, tautog, menhaden, northern and striped sea robins, hogchoker, puffer, windowpane flounder, butterfish, atlantic mackerel and cunner. The DGEIS does not address the biological impacts of the proposed shellfish dredging activities on the epifauna and biogenic organisms that provide feeding and refuge habitats for juvenile or small forms of marine finfish and other benthic organisms, nor does it address the impacts of the loss of Essential Fish Habitat on fish populations, survival, recruitment and the subsequent productivity of those fish species that rely on this habitat .

84) The DGEIS fails to address how the shellfish dredging activities associated with the proposal to lease underwater lands of Peconic and Gardiners Bay for the purpose of aquaculture will affect winter flounder spawning, egg, larval, postlarval and juvenile life stages and the habitat they rely on. The DGEIS should address how repeated, frequent commercial scale shellfish dredging activities will affect populations of winter flounder, as well as address the negative affects associated with an increase in turbidity and sedimentation, entrainment and burial of eggs and larvae, winter flounder predator/prey interactions and feeding, reproductive success, effects on winter flounder year class and recruitment, and future recreational and commercial landings, as well as address the impacts of the proposed activity on winter flounder Essential Fish Habitat.

85) DEIS needs to consider implementing monitoring requirements under the program to evaluate the impacts to non-target species and changes in sediment deposition from cage use.

86) Possible factors to explore:
To compare among baseline, lease impacted and non-impacted sites within the estuary, up-current and down-current of lease sites, harvest methodologies
Seasonal monitoring – 6 times a year?

Bottom and pelagic fish abundance and diversity
Benthic community composition
Sediment characteristics
Chlorophyll
Plankton community composition (including phytoplankton and larvae)
Temperature, Dissolved Oxygen, Salinity, Nitrogen, Turbidity, Other?
SAV health/type and changes in density/distribution
Monitoring of natural shellfish beds health and composition
Waterfowl census
Dive surveys/transects

87) Under the heading **US Fish and Wildlife Service**, the DGEIS states that the USFWS has regulatory 8control over any federally endangered wildlife species, such as marine mammals, which may be affected by shellfish aquaculture activities. This is generally the case in circumstances when those species are encountered on land. In the case of marine mammals and sea turtles found in the water, the National Oceanic and Atmospheric Administration (NOAA) has regulatory control through NMFS.

88) As proposed in the DEIS, the aquaculture leasing program does not adequately address management for the potential take of protected species.

89) The DEIS does not address the threat of sea turtle takes posed by mechanical harvesting.

The following discussion,items 90-91 relates to fishing activities, in general.

90) The DGEIS needs a better, more complete description of commercial fishing activity, particularly locations and seasonality. The DGEIS does not adequately describe the setting, leaving out important details. The areas where commercial fishing takes place are important for the exclusion mapping exercise. The DGEIS leaves out important detail about the recreational fishery, ignoring the flyfishing charter industry, for example. The document does not adequately describe the recreational industry, particularly location data which would be useful for the exclusion mapping exercise. The DGEIS needs a better description of the impacts to fishing activities, including the loss of access to public lands occupied by aquaculture gear. The DGEIS needs a more complete description of boating activities and infrastructure, with impacts to same. There is some errata and irrelevant information included in this section. The Contactor should consult with DEC on corrections.

91) General Comment on Mechanical Harvesting

From 1984 to the present, the Department has conducted the a survey of striped bass using a beach seine in Little Neck Bay and Manhasset Bay. During the time period in question, Department staff conducting the seine survey had first-hand observation of the condition of the water and the bottom before and during the use of mechanical harvesting for the re-lay program. Setting and retrieving the seine became more difficult as the unconsolidated sediments that had been loosened by mechanical harvest were re-suspended and clogged the net every time it was retrieved. This condition persisted for nearly a year following cessation of mechanical harvest. These observations played a role in the Department's decision not to allow mechanical harvest of wild product in New York (personal communication, DEC staff). If mechanical harvest is allowed, how will the impact described above be prevented.

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Appendix E
Hydraulic Shellfish Dredging Impacts
Additional Literature Review

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A Literature Review of Ecological Impacts Associated with Hydraulic Shellfish Harvest Dredges

1.0 Introduction

When compared to conventional shellfish harvesting techniques, hydraulic dredges are more efficient, allow for continuous harvesting with a lower mortality rate, and increase the area and bottom type that can be dredged (MacPhail 1961, Parker 1981). However, some believe that the potential ecological impacts from hydraulic dredging outweigh its economical advantage. Scientific studies have been conducted on the potential impacts of hydraulic dredges on the immediate and surrounding environment. This appendix provides a literature review of the available scientific and grey literature on hydraulic dredging in an effort to examine the severity of the potential impacts associated with the use of this equipment for harvesting cultured shellfish.

Hydraulic dredges capture shellfish by injecting highly pressurized water into bottom sediments to create a slurry from which burrowing shellfish can be easily extracted (National Research Council 2002). Most hydraulic dredges utilize a dredge head, consisting of a cutting edge that removes shellfish from the substrate and a basket container in which the shellfish are collected, towed by a cable from the vessel equipped with a winch, water pump and ancillary equipment.

Unlike hydraulic dredges, mechanical dredges (i.e., dry dredges) do not utilize pressurized water to extract burrowed shellfish, but scrape shellfish off the bottom. Mechanical dredges are typically used for scallops and oysters which lie on the top of the substrate.

Hydraulic dredging for the harvest of cultured shellfish should not be compared to impacts associated with channel dredging. Channel dredging and channel maintenance operations occur on a much larger scale than cultured shellfish harvesting. More sediment is removed during channel dredging operations, resulting

in more severe impacts to the surrounding marine environment. Shellfish harvest dredges disturb only the top few centimeters of the substrate in a particular area.

New York State Department of Environmental Conservation (NYSDEC) currently permits the use of hydraulic dredging equipment for shellfish harvest on privately-owned or leased underwater lands under the provisions of the Environmental Conservation Law (ECL). However, privately-held oyster grant holders are required to have a valid on-bottom culture permit for shellfish species other than oysters in order to use hydraulic dredging equipment to harvest shellfish on their site. The use of hydraulic dredging equipment for shellfish aquaculture harvest on NYSDEC Temporary Marine Area Use Assignments (TMAUAs) sites, all of which are off-bottom culture operations, is prohibited by NYSDEC under a special condition stated in the culture permit.

2.0 Potential Ecological Impacts Associated with Hydraulic Dredging

There are several ecological issues associated with the use of hydraulic dredging that may occur in the immediate and surrounding environment of the dredging site. The main issues include:

- resuspension/turbidity effects
- decreased water quality (release of nutrients, contaminants, elevated biological oxygen demand [BOD])
- impacts of settling resuspended sediments
- impacts on species richness, diversity and productivity
- impacts on vertical structure

The ecological effects of hydraulic dredging are generally related to the intensity of, and time scale within which the operations are undertaken, as well as the type of area being worked. Each of these potential impacts is discussed in detail below.

2.1 Resuspension/Turbidity Effects

Hydraulic dredges create the largest turbidity plumes of all the mechanical shellfish harvesting techniques (Richardson 1984). The highly-pressurized water of hydraulic dredges injected directly into the bay bottom physically disturbs and suspends sediment biota and causes an underwater cloud of suspended sediments, commonly referred to as a turbidity plume. Suspended sediments and turbidity plumes may cause short-term impacts to aquatic life, including shading, a decrease in primary production, effects on the filter feeding of shellfish (Barnes et al. 1991), and fish gill clogging and irritation (Simenstad 1990).

Resuspension of sediments occurs naturally in an estuarine environment, resulting from the activities of benthic organisms within the sediments (bioturbation) and by tidal currents, increased wind velocity, and storm waves (Barnes et al. 1991). Estuarine organisms that encounter elevated and highly variable suspended sediment loads throughout their life histories, with ambient seston levels often varying by several orders of magnitude over short durations, are generally considered tolerant of short-term perturbations (Lutz 1938; Kyte et al. 1975). Simenstad (1990) and Coen (1995) both reported that most estuarine fishes move out or are adapted to elevated suspended sediments and most behavioral or sublethal effects seen in the lab are even more ambiguous when extrapolated to the field. Auld and Schubel (1978) concluded the same for eggs and larvae of six Chesapeake Bay species (including striped bass). However, this may not be the case for young fish or if food supplies are increased as a result of increases in organic material (ABP Research 1997).

The size and suspended duration of a turbidity plume is dependant on the substrate affected, depth of the dredge cut, and the scale of the operation (Barnes et al. 1991). The distance and direction of the plume is subject to wave currents. Tarnowski (2001) found that substrates consisting predominately of silt/clay sediments remain in suspension the longest when altered by dredging activities. Ruffin (1995) found that a turbidity plume created by a hydraulic dredge returned to background levels approximately three hours after operations ceased. Light attenuation took 4.8 hours to

return to background levels in deep waters and up to 22 hours in shallow waters. According to Barnes et al. (1991), nearly all of the sediments suspended from shellfish dredging operations will remain within approximately one meter of the bay bottom and settle within approximately four hours of disturbance. Detectable deposits resulting from hydraulic dredging have been recorded at a maximum distance of 75 ft, and a minimum of 15 ft from a dredging site (Rheault 2008). Taylor and Saloman (1968) reported that interference with photosynthesis due to light shielding of the resuspended sediments was offset by the stimulation of photosynthesis as nutrients were mobilized and made available for phytoplankton uptake.

Impacts of turbidity plumes created by hydraulic shellfish dredges in tidal waters are believed to be negligible on biological resources when compared to natural environmental variation (e.g., currents, winds and waves) (Coen 1995; Godwin 1973). Most studies have shown that over 95 percent of the suspended sediment settles to the bottom within a few tens of meters of the source (reviewed in Coen 1995). Barnes et al. (1991) stated that the maximum estimate of the total amount of resuspension during a shellfish dredging operation is comparable to a single tidal resuspension event, with concentrations higher at the shellfish dredging site. Auld and Schubel (1978) also concluded that the limited turbidity plumes created by shellfish dredging operations are unlikely to have a major impact on ambient turbidity levels and those habitats.

It should be noted that hydraulic dredging of shellfish is very different from channel dredging and channel maintenance operations, which involve the removal of large volumes of sediment in a concentrated area. Potential impacts of channel dredging are much greater than those associated with shellfish dredging because of the relatively intense scale of the activity.

2.2 Decreased Water Quality

Release of Nutrients

Shellfish aquaculture does not result in additional nutrient loading, but rather a transfer of nutrients from the water column to benthic sediments through deposition of feces and pseudofeces (Olin 2002). The stirring of bottom sediments can temporarily cause an acceleration of the release of nutrients (Rheault 2008). Excessive amounts of nutrients released to the water column could result in algal stimulation/eutrophication, ammonia toxicity, and chemical oxygen demand (Barnes et al. 1991). Nutrient releases from shellfish harvesting techniques are believed to be negligible (Kyte et al. 1975; Barnes et al. 1991). According to Barnes et al. (1991), the quantity of nutrients released from shellfish dredging activities is low and the associated impacts are less than those resulting from a more widespread, high energy event such as a storm or from the daily nutrient loadings from point and non-point sources. Such impacts should be limited in time (from minutes to a maximum of one week) and space (generally confined to the active harvest area) (Barnes et al. 1991). Barnes et al. (1991) concluded that potential impacts of nutrient release by shellfish harvesters are short-term and very localized, since the magnitude of released nutrients is small compared to an overall estuarine ecosystem nutrient budget. Barnes et al. (1991) also stated that such results of increased nutrients (e.g., algal blooms) are probably offset by shading due to enhanced turbidity.

Based on the scientific literature reviewed and the high variability of typical wind or storm events that may occur and fluctuations in daily loadings from point and non-point sources, it seems highly improbable that nutrient release related to shellfish harvesting under the proposed Shellfish Aquaculture Lease Program would have major significant impacts to the Peconic Estuary.

Release of Contaminants

Potential impacts associated with the release of suspended toxins (e.g., pesticides, heavy metals, hydrocarbons) are minimized in an estuarine environment, where currents and the continuous mixing of the water column would dilute toxin

concentrations (Barnes, et al. 1991) (Drobeck and Johnston 1982), although the likelihood of impacts would increase as in areas where water movement decreased, as in the more enclosed areas which are typically uncertified for shellfish harvesting. Toxins entering the estuary are likely to adhere to suspended sediments and eventually settle to the bay bottom (USEPA 2006). Physical disturbances (e.g. dredging activities) of these sediments could potentially release toxins into the water column, where they may become concentrated by filter-feeding organisms.

According to Barnes et al. (1991), the release of metals from shellfish dredging activities, including hydraulic dredges, is insignificant, as no significant releases of metals have ever been observed since shellfish growing areas require high water quality and are not areas where such chemicals have been dumped. Areas designated for shellfish cultivation under the proposed Lease Program will not be in areas where contaminated sediments would be found. The Shellfish Cultivation Zone will be located within certified waters over 1,000 feet from the shore in areas generally regarded as free of contaminants.

Elevated BOD from the Release of Nutrients

Elevated levels of nutrients stimulate algal growth and increase biological oxygen demand (BOD), which can potentially lead to local eutrophy (Kyte et al. 1975; Kyte and Chew 1975; Barnes et al. 1991).

Kyte et al. (1975) found that the hydraulic escalator dredge had little long-term effects on the local ecosystem. Ambient seston levels (6.9 - 441 mg/L) often met or exceeded those associated with harvesting, thus obscuring any potential short-term effects. Barnes et al. (1991) concluded that the concern of dissolved oxygen reduction due to a dredge-induced nutrient release algal bloom/algal die-off scenario is very small when compared to other consistent types of nutrient loading problems creating this same scenario. According to Rheault (2008), if the equilibrium is altered locally by dispersing and oxygenating sediments then those suspended sediments will have less oxygen demand after the disturbance, resulting in local, short-term oxygen

reduction due to the local disturbance; not a net loss of oxygen from the water column.

2.3 Direct Burial/Smothering

In some cases, suspended sediments from a turbidity plume created by a hydraulic dredge may travel and settle over adjacent subtidal or intertidal habitats some distance from the dredged area. Settling sediments may result in physiological impacts, including smothering of benthic habitats; delayed or reduced hatching of eggs, reduced larval growth/development, abnormal larval development, or reduced response to physical stimulus (Anchor Environmental 2003). Numerous laboratory studies have been conducted on the effects of suspended sediments on a variety of aquatic organisms, including pelagic, bottom dwelling, and epibenthic feeders. Generally, mortality from direct burial or smothering caused by dredging is an issue only for organisms with restricted mobility (e.g., attached eggs, juveniles, burrowing infauna, oysters) (Lutz 1938; Barnes et al. 1991).

Hirsch et al. (1978) concluded that the more naturally variable the environment, the less effect dredging will have because animals common to the unstable areas are adapted to stressful conditions and have life cycles which allow them to withstand the stresses imposed by dredging and disposal. According to Coen (1995) and Barnes et al. (1991), in most instances, impacts to benthic communities are perceived to be insignificant since most benthic organisms are capable of tolerating burial effects up to 30 cm. Most of the physical changes of sediments may return to their natural state within two weeks (Visel undated).

Physical impacts of suspended sediments on important fish spawning and nursery grounds are another concern. It is believed that suspended sediments could settle on and smother demersal eggs and affect the respiratory of fish in the larval stage. This impact is more likely to occur when harvesting operations coincide with seasonal reproduction (Barnes et al. 1991).

A review of scientific literature on the effects of suspended sediments on various life stages of fishes was conducted by LaSalle et al. (1991). According to LaSalle et al., all life stages of estuarine-dependent and anadromous fish species appear to be fairly tolerant of elevated suspended sediment concentrations and concluded that, in all probability, fishes that use naturally turbid habitats as spawning and nursery grounds are adapted to and highly tolerant of elevated suspended sediment concentrations. LaSalle et al. (1991) found that in some cases (e.g., striped bass), tolerance of elevated suspended sediment concentrations corresponds to periods of greatest ambient suspended sediment levels. According to Auld and Schubel (1978), turbidities greater than 1,000 mg/L and 500 mg/L were lethal to striped bass eggs and larvae, respectively. Conversely, Morgan et al. (1991) reported that up to 5,250 mg/L of suspended sediment did not affect the hatch of striped bass eggs, although developmental rates were slowed significantly at levels above 1,500 mg/L. LaSalle et al. (1991) concluded that 500 mg/L to 1,000 mg/L of suspended sediment should be considered a conservative safe level at which no impact would be anticipated to demersal eggs or fish larvae.

Estimates of resuspended sediment levels from commonly used sediment dredges (i.e., cutterhead dredge and clamshell/bucket dredge) operating in estuarine habitats are less than the amount stated above for impacts to striped bass eggs and larvae. Resuspended solids produced by a cutterhead dredge reached a maximum of 580 mg/L within two meters of the dredge (Herbich and Brahme in Barnes et al. 1991). Studies of a clamshell/bucket dredge found resuspended solids reaching a maximum of 100 mg/L (Peddicord and McFarland 1978 in Barnes et al. 1991) and 790 mg/L (Tavolaro 1984 in Barnes et al. 1991). Barnes et al. (1991) concluded that sedimentation rates induced by shellfish harvesting activities can be expected to be minimal when compared to other dredging activities and, therefore, should have no significant adverse impact. It is highly unlikely that harvest activities under the proposed Suffolk County Aquaculture Lease Program will result in prolonged or chronic elevation of sediment levels since the leases will be too small to support hydraulic dredging and because the activities are very limited in area (Rheault 2008).

As previously mentioned, channel dredging and maintenance operations are much larger in scale than shellfish harvest dredging activities. Impacts associated with channel dredging and maintenance are more severe due to the large amount of sediment removed and the broader scale of the operation, as opposed to shellfish harvest dredging, which only disturbs the top few centimeters of the substrate in a concentrated area.

2.4 Impacts on Species Richness, Diversity and Productivity

All mobile shellfish harvesting gear, whether hydraulic or dry dredges (non-hydraulic dredges), reduces benthic habitat complexity by removing or damaging the actual physical structure of the seafloor, and causes changes in species composition (National Research Council 2002). However, since many of these small benthic organisms (crustaceans, polychaetes, mollusks) have rapid generation times, high fecundities and excellent recolonization capacities, it is generally accepted that this community effect is only short-term (e.g., Godcharles 1971; Peterson et al. 1987; Bennet et al. 1990; Hall et al. 1990).

Hydraulic water jets cut into bottom sediments creating shallow trenches along the dredge line, approximately 4-8 inches deep, depending on the type of equipment used. This cutting action restructures the bottom sediments and directly disturbs sediment biota. Trenches cut through gravelly substrates in low current environments may persist for an extended period of time (Caddy 1973), while trenches created in sandy substrates or in areas of high energy recover the fastest (Tarnowski 2001). Ultimately, recovery time is dependant on site wave action and tidal conditions (Eleftheriou and Robertson 1992). Several studies conclude that the use of hydraulic dredges for shellfish harvesting does not significantly impact benthic habitat more than non-hydraulic harvesting techniques.

A study conducted by Godcharles (1971) found no lasting impacts on benthic populations from the use of a hydraulic escalator dredge. Several studies found that predators and opportunistic species (e.g., fish, crabs, shrimp, gastropods,

echnioderms) were immediately attracted to the dredged area following dredging operations (Ingel 1952; Manning 1959; Meyer et al. 1981; Haskin and Wagner 1986). Mackenzie (1982) concluded that hydraulic dredging did not alter the abundance and species composition of the benthic macroinvertebrates; the polychaetes and mollusks present on the surface were observed to reburrow (Barnes et al. 1991). During a study conducted by Hall et al. (1990) investigating the effects of hydraulic dredging on the infauna by comparing the species composition in dredged and adjacent undredged areas, an increase was observed in the density of species and individuals in the dredged area and a decrease in the unaltered adjacent area 40 days after dredging. Dolmer et al. (2001) interpreted this change as a result of suspended benthic animals by the dredge followed by a sedimentation of animals in the adjacent area.

Barnes et al. (1991) stated that one of the advantages of hydraulic dredging for shellfish harvesting purposes was that it is actually easier on bottom and benthos. The Virginia Institute of Marine Science (Austin 1980 cited in Barnes et al. 1991) concluded that hydraulic dredging for hard clams was found to be less disruptive of the bottom ecology than the standard oyster dredge or patent tongs. Furthermore, since cultured shellfish are planted in high densities on the seafloor, direct impacts to the bay bottom from hydraulic dredges are less likely to occur (K. Rivara, East End Marine Farmers Association, personal communication, February 2008).

When compared to wild shellfish harvest operations, dredging cultured shellfish has a much less significant impact on the surrounding aquatic ecosystem. Wild shellfish harvesting entails the repeated dredging over a broader area for a prolonged period of time. Where as wild stock dredging seeks to find concentrations of shellfish over a broader area, aquaculturists only dredge the specific area where they have planted shellfish, allowing for a more focused operation.

By-catch is not perceived to be an issue with hydraulic dredging for shellfish aquaculture. Shellfish farmers rarely encounter significant by-catch of undesirable species due to the fact that the gear is slowly towed across the site; the gear is

designed to catch shellfish not fish; and, tows are very short (Rheault 2008). During this literature review, no studies or documentation regarding the impacts to sea turtles from hydraulic dredges were encountered. Rheault (2008) stated that in the course of 30 years of shellfish aquaculture, he has never seen or heard of anyone interacting with any species of turtle in dredging gear.

2.5 Impacts on Vertical Structure

Seafloor structures serve as nurseries for juvenile fish and provide refuge and food for adults (Rheault 2008). Areas of the seafloor that lack these structures do not support the variety of fish populations observed in more complex regions (Collie et al. 2000 and Kaiser et al. 1999 cited in Rheault 2008). In oyster culture operations, unlike the wild fishery, the shell and juvenile shellfish are replanted after harvest and so the vertical structure is replaced (Rheault 2008). In clam aquaculture, there is typically little structure to begin with, so the disturbance is short-term and recovery is rapid (Rheault 2008).

3.0 Conclusion

Shellfish hydraulic dredging operations have typically not been considered to have deleterious results, since their effects are perceived to be negligible compared to natural environmental variation (e.g., currents, winds and waves) (Godwin 1973). It is important to remember that on cultured grounds, the shellfish farmer replants the bottom with live shellfish, so the significant impacts typically associated with dredging operations are limited to wild harvest activities and are not relevant to the harvest of shellfish on cultured ground (Rheault 2008). Shellfish farmers typically leave their crop untouched for several years prior to harvesting; therefore, the degree of impacts from hydraulic dredges is less than wild shellfish harvest.

Hydraulic dredging in Oyster Bay Harbor has been undertaken by the Frank M. Flowers & Sons Company for many years without evidence of undue environmental degradation (D. Relyea, Frank M. Flower & Sons, personal communication, June 2007). Mr. David Relyea of Frank M. Flower & Sons believes the hydraulic dredging

conducted by Flowers is not seriously detrimental to the environment and makes the sediment more suitable for successful clam sets (D. Relyea, Frank M. Flower & Sons, personal communication, June 2007). He also stated that the dredging does not cause an extensive cloud of suspended sediment except in the immediate vicinity of the dredge when it is raised to the surface and flushed to remove sediment carried up in the dredge. The Flowers & Sons Company operates what is regarded as a successful and productive oyster and clam aquaculture business in the relatively confined waters of Oyster Bay Harbor on leased lands, and the company relies on hydraulic dredging as an important tool in its operations.

A negative perception of shellfish dredging is likely attributed to past dredging operations conducted on the former Bluepoints Company on 13,000 acres of private underwater land in Great South Bay. The Bluepoints Company shellfish harvest dredging operations are believed to have resulted in long-term damage to the bay bottom. Dredging operations performed by Bluepoints Company were extensive, conducted on a year-round basis, and included the harvest of cultured shellfish as well as natural shellfish stock. Their prolonged dredging use resulted in the destruction of eelgrass beds, scoured bottom sediments, and the over-harvest of natural clam stocks (Carl LoBue, The Nature Conservancy, personal communication, August 2008). It should be remembered, however, that according to the former manager of the hard clam aquaculture operation at the Bluepoints Co., only 4-5% of peak harvests during the early 1980s originated from selected beds that were planted with hard clam seed produced in the company hatchery. The remaining 95% of harvests came from natural clam stocks. (Craig Strong, personal communication with DeWitt S. Davies, August 2008).

Contrary to the dredging operations conducted by Bluepoints Company, any hydraulic dredging that is conducted under the proposed Suffolk County Shellfish Aquaculture Lease Program are likely to have minimal impacts to the estuarine environment due to the limited scale of the program. In addition, the Lease Program

will in effect preclude hydraulic (or even dry-dredge) harvest methods because of the restricted size of the lease plots.

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Appendix F
Essential Fish Habitat
Evaluation

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1.0 Introduction

This assessment to Essential Fish Habitat (EFH) for the Suffolk County Shellfish Aquaculture Lease Program is being prepared in conformance with the 1996 amendments to the Magnuson-Stevens Fishery Management and Conservation Act (see FR 62,244, December 19, 1997). The 1996 amendments to the Act set forth a number of new mandates for the National Marine Fisheries Service (NMFS), eight regional fishery management councils (Councils), and other federal agencies to identify and protect important marine and anadromous fish habitats. The Councils, with assistance from NMFS, are required to delineate EFH for all managed species. Federal action agencies which fund, permit or carry out activities that may adversely impact EFH are required to consult with NMFS regarding the potential effects of their actions on EFH, and respond in writing to NMFS recommendations. The proposed shellfish aquaculture lease program is located within an area designated as EFH for the Northeast Council's Coastal Pelagics and Northeast Groundfish Management Plans.

Although an EFH assessment is not specifically required for development and implementation of the Suffolk County Shellfish Aquaculture Lease Program. The EFH assessment format was utilized because of its standard format for assessing impacts to EFH, and it provides an assessment useful as technical backup to the SEQRA review of the program.

2.0 Location

The project area is located in the Peconic Estuary System and includes: Great Peconic Bay, Flanders Bay, Little Peconic Bay, Southold Bay and Shelter Island Sound and Gardiners Bay. These bays are located within the Towns of Southampton, East Hampton, Southold, Riverhead and Shelter Island. There are five EFH designations with portions of their coordinates located within the County's Shellfish Aquaculture Lease Area.

3.0 Project Purpose

This report will provide documentation helpful for the Suffolk County Legislature and the Suffolk County Executive to enact the local law and regulations for the *Shellfish Aquaculture Lease Program in Peconic Bay and Gardiners Bay* that will enable Suffolk County to issue shellfish aquaculture leases.

The implementation of the *Shellfish Aquaculture Lease Program in Peconic and Gardiners Bays* is expected to yield the following benefits:

- Provide people with the opportunity to obtain access to underwater lands for raising shellfish.
- Encourage private investment in aquaculture businesses and the establishment of shellfish farms at secure locations that do not pose conflicts with commercial fishermen and other bay users.
- Expand the marine-based economy and create related job opportunities.
- Augment the spawning potential of native shellfish populations and exert positive influence on water quality by helping to control nutrient cycling and to prevent noxious plankton blooms as a result of the increase in the number of shellfish.

- Provide other potential positive impacts related to the establishment of aquaculture leases such as: bottom structures providing more suitable substrate for both flora and fauna; commensal relationships between commercial fishing activities and culture activities; and providing additional opportunity for commercial fisherman to maintain their economic viability.

4.0 Description of the Proposed Action

Suffolk County is preparing a *Shellfish Aquaculture Lease Management Program Report* to:

- Fulfill the requirements of the NYS ECL §13-0302 (2004 Leasing Law)
- Establish a framework for the leasing of underwater lands for shellfish aquaculture that minimizes environmental impacts and user conflicts while supporting the growth of shellfish aquaculture and the environmental, economic and natural resource benefits it provides; and,
- Develop the local laws, regulations and administrative procedures necessary to implement a shellfish aquaculture lease program.

5.0 Proposed Mitigation

Several aspects of the proposed project serve as mitigation for the potential impacts to EFH. These include the following:

- Areas to be leased for shellfish aquaculture will be relatively small compared to the available suitable EFH found within the project area.
- On bottom harvest methods will be limited to those allowed by existing regulatory agencies.
- Increased shellfish populations may have a positive effect on water quality normally associated with filter-feeding organisms.
- Structures associated with shellfish aquaculture may act as suitable fish habitat.

6.0 Summary of Essential Fish Habitat (EFH) Designation

Numerous investigators have studied critically important nurseries for marine fishes and invertebrates found in the Peconic Estuary System (Ahrens, 1997; Bruno *et al*, 1980; Burkholder et al, 1992; Cashin, 1996; Colletti, 1993; Hardy, 1976; Webber *et al*, 1998). The Peconic Estuary System includes the Peconic estuary and those land areas that contribute groundwater and stormwater runoff to the Peconic River and the estuary. The estuary system features numerous rare ecosystems that are home to many plant and animal species, including several nationally and locally threatened and endangered plants and animals. In a report published by the New York State Department of Conservation (NYSDEC), over the period of nine years (1987-1995), 74 species of fish representing 41 families were collected in the Peconic Bay system (Webber *et al*, 1998). Twenty-five species of concern are listed in this Essential Fish Habitat Designation and are discussed in more detail below.

According the NYSDEC, as with most coastal areas around the county, the natural habitats of the Peconic estuary and its watershed have been profoundly impacted by physical alterations; including dredging, filling, clearing for agriculture and development. In addition, extensive chemical changes such as input of excess nutrients, suspended sediments, toxic contaminants like pesticides and metals, and salinity disturbances, have taken place.

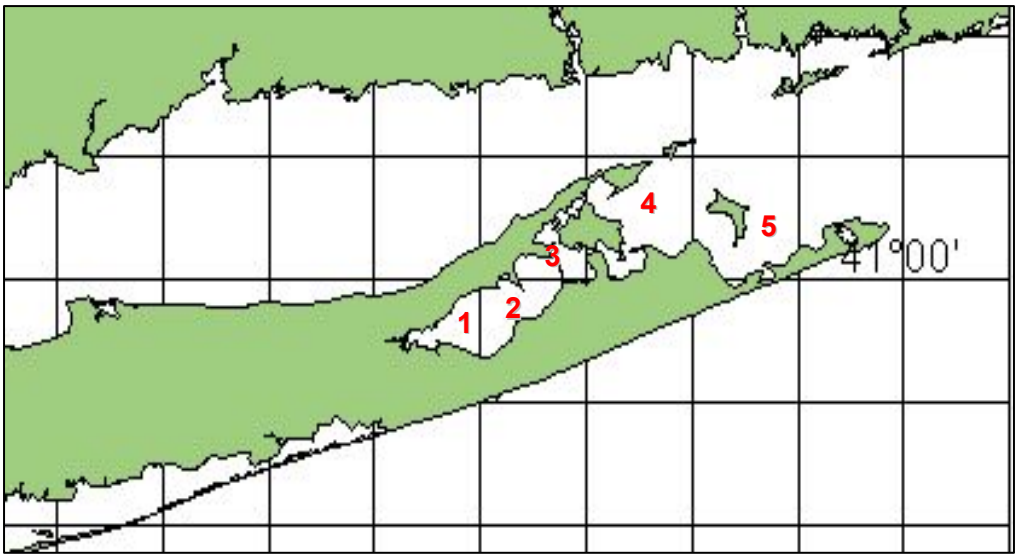
Other indicators show signs of environmental stress. Low dissolved oxygen conditions occur in the tidal Peconic River, western Flanders Bay and tidal creeks; eelgrass beds are now virtually absent west of Shelter Island, and those that do exist are not expanding. In addition, numerous pesticides have been detected in the groundwater. Local fisheries, especially bay scallops and winter flounder, no longer support commercial harvests.

The 1996 amendments to the Magnuson-Stevens Fishery Conservation and Management Act strengthened the ability of NMFS and the Councils to protect and conserve the habitat of marine, estuarine, and anadromous finfish, mollusks, and crustaceans. This habitat is termed "essential fish habitat" and is broadly defined to include "those waters and substrate necessary to fish for spawning, breeding, feeding, or growth to maturity." The Act requires the Councils to describe and identify the essential habitat for the managed species, minimize to the extent practicable adverse effects on EFH caused by fishing, and identify other actions to encourage the conservation and enhancement of EFH.

The Act also establishes measures to protect EFH. NMFS must coordinate with other federal agencies to conserve and enhance EFH, and federal agencies must consult with NMFS on all actions or proposed actions authorized, funded, or undertaken by the agency that may adversely affect EFH. In turn NMFS must provide recommendations to federal and state agencies on such activities to conserve EFH. These recommendations may include measures to avoid, minimize, mitigate, or otherwise offset adverse effects on EFH resulting from actions or proposed actions authorized, funded, or undertaken by that agency.

As stated previously and numbered EFH Grid #1-5 in Figure 15 of the DGEIS (page 180), there are five EFH designations located within the project area, and each of these areas will be assessed separately below:

Figure 1 - Essential Fish Habitats Grids within the Shellfish Cultivation Zone



6.1 Essential Fish Habitat Grid #1

10' x 10' Square Coordinates:

Boundary	North	East	South	West
Coordinate	41° 00.0' N	72° 30.0' W	40° 50.0' N	72° 40.0' W

Square Description (i.e. habitat, landmarks, coastline markers): Atlantic Ocean waters within the square within Long Island Sound on the absolute northwest corner of the square, affecting the following: from the Mattituck Hills to northeast of Centerville, NY. Also, waters within Gardiners Bay and western Great Peconic Bay affecting the following: from just east of Deep Hole Creek southeast of Mattituck, NY, past Jamesport, NY, and South Jamesport, NY, around Flanders Bay to the Shinnecock Canal north of Flanders, NY, Red Creek, NY, and Squiretown, NY, and also east of Riverhead, NY. Waters within the southwest part of Shinnecock Bay are found in this square as well. At the very bottom of the square, waters within Great South Bay estuary can also be found.

Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon *(Salmo salar)*			X	X
Atlantic cod *(Gadus morhua)*				
haddock *(Melanogrammus aeglefinus)*				
pollock *(Pollachius virens)*			X	X
whiting *(Merluccius bilinearis)*				
offshore hake *(Merluccius albidus)*				
red hake *(Urophycis chuss)*	X	X	X	X
white hake *(Urophycis tenuis)*				
redfish *(Sebastes fasciatus)*	n/a			
witch flounder *(Glyptocephalus cynoglossus)*				
winter flounder *(Pleuronectes americanus)*	X	X	X	X
yellowtail flounder *(Pleuronectes ferruginea)*				
windowpane flounder *(Scopthalmus aquosus)*	X	X	X	X
American plaice *(Hippoglossoides platessoides)*				
ocean pout *(Macrozoarces americanus)*				
Atlantic halibut *(Hippoglossus hippoglossus)*				
Atlantic sea scallop *(Placopecten magellanicus)*				
Atlantic sea herring *(Clupea harengus)*			X	X
monkfish *(Lophius americanus)*				
bluefish *(Pomatomus saltatrix)*			X	X

long finned squid *(Loligo pealei)*	n/a	n/a		
short finned squid *(Illex illecebrosus)*	n/a	n/a		
Atlantic butterfish *(Peprilus triacanthus)*				
Atlantic mackerel *(Scomber scombrus)*	X	X	X	X
summer flounder *(Paralicthys dentatus)*			X	X
scup *(Stenotomus chrysops)*	X	X	X	X
black sea bass *(Centropristus striata)*	n/a		X	
surf clam *(Spisula solidissima)*	n/a	n/a		
ocean quahog *(Artica islandica)*	n/a	n/a		
spiny dogfish *(Squalus acanthias)*	n/a	n/a		
tilefish *(Lopholatilus chamaeleonticeps)*				
king mackerel *(Scomberomorus cavalla)*	X	X	X	X
Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X
cobia *(Rachycentron canadum)*	X	X	X	X
blue shark (*Prionace glauca)*				X
dusky shark *(Charcharinus obscurus)*		X		
sandbar shark *(Charcharinus plumbeus)*		X	X	X
sand tiger shark *(Odontaspis taurus)*		X		

The following is an evaluation on the effects on the EFH associated with Grid #1 designation:

Atlantic salmon (*Salmo salar*) – The life stage summary table indicates that this EFH is present in this designation during juvenile and adult life stages. However, the Atlantic salmon spawns in freshwater streams in New England, where the juveniles typically remain for two to three years. When they reach six inches, the juveniles migrate to sea,

where they become pelagic and range form Long Island Sound to the Labrador Sea. Upon maturity, this species returns to its natal rivers to spawn (Oanie, 1984). Based on the demographics, no adverse effect is anticipated because both juvenile and adults are mobile and can avoid any impacts associated with the proposed action even if they were to appear in the proposed project area.

Pollock (*Pollachius virens*) – As indicated in the Grid #1 designation life stage summary table, juveniles and adults are present in this designation. This species has been reported over a wide variety of substrates, including sand, mud, rocky bottoms and vegetation (Hardy, 1978). They are found at temperatures ranging form 0-16^{o}C and prefer salinities of around 31.5ppt (Hardy, 1978). Although, the water and substrate parameters located in the project area could support these life stages of the species, according to the catch data from the New York State Department of Environmental Conservation no landings of pollock were recorded in the 3,657 trawls performed between 1987 and 1997 (Webber *et al*, 1998). Therefore, no adverse impacts to this species is expected from the proposed action.

Red hake (*Urophycis chuss*) – This species is present in this designation area during all life stages. However, the eggs are buoyant, and float near the surface; the larvae and young juveniles are pelagic and therefore impacts to the benthos associated with harvesting of shellfish should not affect these life stages. As the juveniles develop, they become demersal gradually descending to the bottom in depressions on the seabed (Fahay 1983; Able and Fahay 1998). Demersal juveniles and adults are commonly associated with shelter or structure (submerged man-made objects, debris, and artificial reefs), often with living sea scallops where they can be found under the scallops on the sediment or within their open mantle cavity (Steiner *et al*. 1982; Farman 1983; Able and Fahay 1998). Shellfish harvesting methods could have a negative effect on these life stages but because of the limited size of the proposed project sites with the exception of a few underwater land grants, no large scale harvesting by mechanical methods will be associated with the proposed action; therefore no significant adverse impacts to this EFH is expected. Also, structures associated with off-bottom culturing and cultured oyster reefs may be beneficial by providing suitable habitat.

Winter flounder (*Pseudopleuronectes americanus*) – This species is present in this designation during all life stages. The eggs are demersal, adhesive, and stick together in clusters (Bigelow and Schroeder 1953). Larvae are initially planktonic but become

increasingly bottom-oriented as metamorphosis approaches when the newly metamorphosed young-of-the-year (YOY) take up residence in shallow water. These three life stages would most likely not be affected by the proposed program because they are generally found in swallow inshore waters of the estuary (Pereira, *et al.,* 1999). The majority of the shellfish cultivation zone being proposed in this project is located in waters deeper than 5 meters. This species is known to migrate inshore to spawning grounds in early fall to late winter; however, spawning does not occur in the project area until late winter to early spring (Weber, 1984). In addition, impacts to eggs, larvae and YOY may be avoided by regulating the time of year that on bottom harvesting can occur.

Windowpane flounder (*Scopthalmus aquosus)* - This species is present throughout all of its life stages in this designation. Windowpane generally inhabit shallow water (<110m) with sand to sand/silt or mud substrates (Sukwoo, 1999). The eggs are buoyant and normally not found in the benthic strata. Larvae are pelagic until metamorphosis is complete. Juveniles and adults are mobile and can avoid shellfish aquaculture activities including harvesting techniques that may impact the EFH. The area being committed to aquaculture activities is small in comparison to available essential habitat. Very little to no impact is expected from the proposed action.

Atlantic Sea Herring (*Clupea harengus*) – This species is present though out the juvenile and adult stages in this designation. According to the New England Fisheries Management Council (NEFMC) EFH amendment dated October 7, 1998), both juveniles and adults are found in pelagic waters and bottom habitats. Preferred conditions are water temperatures below 10^{o} C, water depths from 15 – 135 meters and salinities above 26 ppt. Although, these conditions are present in parts of the project area, both the juveniles and adults are mobile and will be able to avoid any impacts that may be associated with the proposed action; therefore, no adverse effects to this EFH is expected.

Bluefish (*Pomatomus saltatrix*) – This species is known to inhabit this designation during its juvenile and adult life stages. This species is extremely mobile in both of these life stages and can easily avoid any disturbances associated with the proposed action. In addition, the structures associated with off-bottom shellfish cultivation may provide suitable habitat for bait fish that this species preys upon.

Atlantic Mackerel (*Scomber scombrus*) – All life stages of this species are found in this designation. Although mostly considered an offshore pelagic species (Studholme, A.L. *et*

al, 1999), it may not be uncommon for all life stages of this species to be found in the project area, particularly in the open waters of Gardiners Bay. The egg and larval stages of this species may be impacted by certain harvesting methods associated with shellfish cultivation, however; by limiting the size of operations and limiting use of harvesting methods no significant adverse impacts are expected on these life stages.

Summer Founder (P*aralicthys dentatus*) – According to NOAA Technical Memorandum (Packer *et al*, 1999) on Summer Flounder, both juveniles who use several estuarine habitats as nursery areas and adults who generally inhabit shallow coastal and estuarine waters during the warmer months (Packer, *et al,* 1999) could be found in the project area. However, both of these life stages are mobile and can avoid any disturbances associated with the proposed action. No significant impact associated with the proposed action is expected on either the juvenile or adult life stages of this species.

Scup (*Stenotomus chrysops*) – All life stages of the species are found in this designation. Scup eggs are buoyant and therefore pelagic, and should not be impacted by on-bottom aquaculture activities such as hydraulic dredging. After reaching 15-30 mm in total length the larvae become demersal (Able and Fahay 1998). However, because there is very little information available on habitat use or requirements during this transition period, it is difficult to assess any significant adverse impacts to this life stage by the proposed action. Both juveniles and adults can be found in the proposed project area, but because they are both mobile, they can avoid any disturbances that may be associated with the proposed action.

Black Sea Bass (*Centropristus striata*) – According to NOAA Technical Memorandum on black sea bass, juvenile sea bass are usually found in association with rough bottom, shellfish and eelgrass beds, man-made structures in sandy-shelly areas; off-shore clam beds and shell patches may also be used during wintering. Because the juvenile life stage of this species is mobile, no significant adverse impact is expected from the proposed action. In fact, structures associated with off-bottom shellfish culture may enhance suitable habitat for this species.

King Mackerel (*Scomberomorus cavalla*) and Spanish Mackerel (*Scomberomorus maculates*) – Both of these species are listed in the designation throughout all of their life stages, however; according to the catch data from the New York State Department of Environmental Conservation no landings of king mackerel were recorded in the 3,657

trawls performed between 1987 and 1997 (Webber *et al*, 1998). Therefore, no significant adverse impact is expected to this EFH by the proposed action.

Cobia (*Rachycentron canadum*) – This species is listed in this designation throughout all of its life stages. However, this species is generally considered an off-shore inhabitant and according to the catch data from the New York State Department of Environmental Conservation only one landing of cobia in the 3,657 trawls performed between 1987 and 1997 was recorded (Webber *et al*, 1998). Therefore no significant adverse impact is expected on this EFH from the proposed action.

Blue Shark (*Prionace glauca*) – No adverse effect on the adult life stage of this species is expected because it is a highly mobile, pelagic species normally found off the coast on the Continental Shelf.

Dusky Shark (*Charcharinus obscurus*) – The larvae life stage of this species is listed in this designation. This species has been captured off the coast of Long Island (Bigelow and Schroeder, 1953), but no catch data is available to indicate that larva are present in the project area. Therefore, no adverse impact from the proposed action to the EFH can be determined.

Sandbar Shark (*Charcharinus plumbeus*) – This species is listed in this designation throughout larvae, juvenile and adult life stages. Although this species is most likely a seasonal visitor to the project area (especially in the eastern portions), the catch data from the New York State Department of Environmental Conservation recorded only one landing of the sandbar shark in the 3,657 trawls performed between 1987 and 1997 (Webber *et al*, 1998). Therefore, no significant adverse impact is expected on this EFH from the proposed action.

Sand Tiger Shark (*Odontaspis taurus*) – The larvae life stage of this species is listed in this designation, however according to the catch data from the New York State Department of Environmental Conservation no landings of sand tiger shark were recorded in the 3,657 trawls performed between 1987 and 1997 (Webber *et al*, 1998). Therefore, no adverse impact to the EFH can be determined from the proposed action.

6.2 Essential Fish Habitat Grid #2

10' x 10' Square Coordinates:

Boundary	North	East	South	West
Coordinate	41 ^{o} 00.0' N	72 ^{o} 20.0' W	40 ^{o} 50.0' N	72 ^{o} 30.0' W

Square Description (i.e. habitat, landmarks, coastline markers): Atlantic Ocean waters within the square within Gardiners Bay, western Little Peconic Bay and eastern Great Peconic Bay affecting the following: southwest of New Suffolk, NY, Cutchogue, NY, southern Nassau Pt., Robins I., along with and north of North Sea, NY, Sebonac Neck, NY, Southampton , NY, and Shinecock Hills, NY, from Shinecock Canal to south of Jessup Neck. Also, within the Atlantic Ocean south of Southampton, NY, from south of Mecox Bay to just west of the Shinnecock Inlet, within eastern Shinecock Bay. Also, waters within Great South Bay estuary can be found at the very bottom of the square.

Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon *(Salmo salar)*			X	X
Atlantic cod *(Gadus morhua)*				
haddock *(Melanogrammus aeglefinus)*				
pollock *(Pollachius virens)*			X	
whiting *(Merluccius bilinearis)*	X	X	X	X
red hake *(Urophycis chuss)*	X	X	X	
witch flounder *(Glyptocephalus cynoglossus)*				
winter flounder *(Pleuronectes americanus)*	X	X	X	X
yellowtail flounder *(Pleuronectes ferruginea)*				
windowpane flounder *(Scopthalmus aquosus)*	X	X	X	X
ocean pout *(Macrozoarces americanus)*	X	X		X

Atlantic sea scallop *(Placopecten magellanicus)*				
Atlantic sea herring *(Clupea harengus)*			X	X
monkfish *(Lophius americanus)*	X	X		
bluefish *(Pomatomus saltatrix)*			X	X
long finned squid *(Loligo pealei)*	n/a	n/a	X	
short finned squid *(Illex illecebrosus)*	n/a	n/a		
Atlantic butterfish *(Peprilus triacanthus)*				
Atlantic mackerel *(Scomber scombrus)*	X	X	X	X
summer flounder *(Paralicthys dentatus)*		X	X	X
scup *(Stenotomus chrysops)*	X	X	X	X
black sea bass *(Centropristus striata)*	n/a		X	
surf clam *(Spisula solidissima)*	n/a	n/a		
ocean quahog *(Artica islandica)*	n/a	n/a		
spiny dogfish *(Squalus acanthias)*	n/a	n/a		
tilefish *(Lopholatilus chamaeleonticeps)*				
king mackerel *(Scomberomorus cavalla)*	X	X	X	X
Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X
cobia *(Rachycentron canadum)*	X	X	X	X
sand tiger shark *(Odontaspis taurus)*		X		
blue shark (*Prionace glauca)*				X
white shark *(Charcharadon carcharias)*			X	
dusky shark *(Charcharinus obscurus)*		X		
sandbar shark *(Charcharinus plumbeus)*		X	X	X

tiger shark *(Galeocerdo cuvieri)*			X	
skipjack tuna *(Katsuwonus pelamis)*				X

The following is an evaluation on the effects on the EFH associated with Grid #2 designation:

Atlantic salmon (*Salmo salar*) – See Grid #1designation description above.

Pollock (*Pollachius virens*) – According to the Grid #2 designation life stage summary table above, juveniles are present in this designation. These life stages of this species have been reported over a wide variety of substrates, including sand, mud, rocky bottoms and vegetation (Hardy, 1978). They are found at temperatures ranging form 0-16^{o}C and prefer salinities of around 31.5ppt (Hardy, 1978). Although, the water and substrate parameters located in the project area could support these life stages in this EFH, no catch data (Weber *et al*, 1998) is available to indicate that they have been found in the project area.

Whiting (*Merluccius bilinearis*) – As indicated in the summary table, all life stages of this species are present in this designation. This species is also known as silver hake and is listed as such in the NOAA Technical Memorandum NMFS-NE-186 -Essential Fish Habitat Source Document. The New England Fisheries Management Council's EFH Amendment (October 7, 1998) for whiting indicates that all life stages of this species are found in water depths greater than 20 meters. During the surveys conducted by the NYSDEC between 1987 and 1997 (totaling 3,657 sample tows), only seven specimens of this species were caught. Therefore no significant adverse impacts are expected on this EFH from the proposed action.

Red hake (*Urophycis chuss*) – This species is present in this designation during egg, larvae and juvenile life stages. However, the eggs are buoyant and float near the surface; the larvae and young juveniles are pelagic and therefore impacts to the benthos associated with harvesting of shellfish should not affect these life stages. As the juveniles develop, they become demersal gradually descending to the bottom in depressions on the seabed (Fahay 1983; Able and Fahay 1998). Demersal juveniles are commonly associated with shelter or structure (submerged man-made objects, debris, and artificial reefs), often with living sea scallops where they can be found under the scallops on the sediment or within

their open mantle cavity (Steiner *et al*. 1982; Garman 1983; Able and Fahay 1998). Shellfish harvesting methods could have a negative effect on these life stages; however, by limiting the size of operations and limiting use of harvesting methods, no significant adverse impacts are expected on these life stages. Also, structures associated with off-bottom culturing may be beneficial by providing suitable habitat.

Winter flounder (*Pseudopleuronectes americanus*) – See Grid #1 designation description above.

Windowpane flounder (*Scopthalmus aquosus)* - See Grid #1designation description above.

Ocean pout (*Macrozoarces americanus*) – This species is present in this designation during egg, larvae and adult life stages. According to the New England Fisheries Management Council (NEFMC) EFH amendment dated October 7, 1998 eggs are generally found in water temperatures below 10^{o} C, depths less than 50 meter, and salinity ranges 32-34 ppt. Larvae are usually found at same temp and depth, but at salinity greater than 25 ppt. Adults are generally found at water temperatures below 15^{o} C, depths less than 110 meters, and salinities between 32-34 ppt. According to the table in the amendment of EFH Designation of Estuaries and Embayments for Ocean Pout, they are not known to inhabit Gardiners Bay. Also, the surveys conducted by the NYSDEC between 1987 and 1997 (totaling 3,657 sample tows) no specimens of this species were caught. Therefore, no impact to this EFH is expected from this proposed action.

Atlantic Sea Herring (*Clupea harengus*) – See Grid #1 designation description above.

Monkfish (*Lophius americanus*) – Also known as goosefish, this species is present in the designation during the egg and larval life stages. However, according to NOAA Technical Memorandum (Steimle, 1999) both of these life stages are generally found in water depths from 15 – 1,000 meters. On this assumption, the proposed action should have very little to no adverse impacts on these life stages of this EFH.

Bluefish (*Pomatomus saltatrix*) – See Grid #1 designation description above.

Long Finned Squid (*Loligo pealei*) – Although this species during the juvenile life stage is found in this designation, no catch data is available to suggest that this species is

known to inhabit the project area, and therefore, no adverse impacts are expected by the proposed action.

Atlantic Mackerel (*Scomber scombrus*) – See Grid #1 designation description above.

Summer Founder (P*aralicthys dentatus*) – According to NOAA Technical Memorandum on Summer Flounder, larvae are most abundant at depths between 30 to 230 feet and therefore no significant adverse impact from the proposed action is expected to this life stage. Both juveniles who use several estuarine habitats as nursery areas and adults who generally inhabit shallow coastal and estuarine waters during the warmer months could be found in the project area. However, both of these life stages are mobile and can avoid any impacts associated with the proposed action.

Scup (*Stenotomus chrysops*) – See Grid #1 designation description above.

Black Sea Bass (*Centropristus striata*) – See Grid #1 designation description above.

King Mackerel (*Scomberomorus cavalla*) and Spanish Mackerel (*Scomberomorus maculates*) – See Grid #1 designation description above.

Cobia (*Rachycentron canadum*) – See Grid #1 designation description above.

Sand Tiger Shark (*Odontaspis Taurus*) – See Grid #1 designation description above.

Blue Shark (*Prionace glauca*) – See Grid #1 designation description above.

White Shark (*Charcharadon carcharias*) – No adverse effect on the juvenile life stage of this species is expected because it is a highly mobile, pelagic species normally found off the coast on the Continental Shelf.

Dusky Shark (*Charcharinus obscurus*) – See Grid #1 designation description above.

Sandbar Shark (*Charcharinus plumbeus*) – See Grid #1 designation description above.

Tiger Shark (*Galeocerdo cuvieri*) – No adverse effect on the juvenile life stage of this species is expected because it is a highly mobile, pelagic species normally found off the coast on the Continental Shelf.

Skipjack Tuna (*Katsuwonus pelamis*) – No adverse effect on the adult life stage of this species is expected because it is a highly mobile, pelagic species normally found off the coast on the Continental Shelf.

6.3 Essential Fish Habitat Grid #3

10' x 10' Square Coordinates:

Boundary	North	East	South	West
Coordinate	41 ^{o} 10.0' N	72 ^{o} 20.0' W	41 ^{o} 00.0' N	72 ^{o} 30.0' W

Square Description (i.e. habitat, landmarks, coastline markers): Atlantic Ocean waters within the square within Long Island Sound affecting the following: northeast Long Island from east of Duck Pond Pt. to just east of Rocky Pt. on the north, north of Greenport, NY, and Southold, NY, including waters affecting Horton Lane Beach, Goldsmith Inlet, Horton Pt., Horton Neck, Shelter I. Sound, northern Little Peconic Bay, and Noyack Bay. Also, these waters are within Gardiners Bay, and affect the following: northern Cutchogue Harbor, Hog Neck Bay, Great Hog Neck, Cedar Beach Pt., NY, Paradise Pt., NY, Southold Bay. In addition, these waters affect the western half of Shelter I. from Hay Beach Pt. to east of West Neck Harbor, around West Neck, Jennings Neck, NY, Shelter I. Heights, NY, Dering Harbor, Dering Harbor, NY, and Shelter I., NY, and Jessup Neck from the north half of Nassau Pt. to just east of Cleaves Pt., south of Greenport, NY.

Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon *(Salmo salar)*			X	X
Atlantic cod *(Gadus morhua)*				
haddock *(Melanogrammus aeglefinus)*				
pollock *(Pollachius virens)*			X	X
whiting *(Merluccius bilinearis)*				
offshore hake *(Merluccius albidus)*				
red hake *(Urophycis chuss)*	X	X	X	X
white hake *(Urophycis tenuis)*				
witch flounder *(Glyptocephalus cynoglossus)*				
winter flounder *(Pleuronectes americanus)*	X	X	X	X

yellowtail flounder *(Pleuronectes ferruginea)*				
windowpane flounder *(Scopthalmus aquosus)*	X	X	X	X
American plaice *(Hippoglossoides platessoides)*				
ocean pout *(Macrozoarces americanus)*				
Atlantic sea scallop *(Placopecten magellanicus)*				
Atlantic sea herring *(Clupea harengus)*			X	X
monkfish *(Lophius americanus)*				
bluefish *(Pomatomus saltatrix)*			X	X
long finned squid *(Loligo pealei)*	n/a	n/a		
short finned squid *(Illex illecebrosus)*	n/a	n/a		
Atlantic butterfish *(Peprilus triacanthus)*				
Atlantic mackerel *(Scomber scombrus)*	X	X	X	X
summer flounder *(Paralicthys dentatus)*			X	X
scup *(Stenotomus chrysops)*	X	X	X	
black sea bass *(Centropristus striata)*	n/a		X	
surf clam *(Spisula solidissima)*	n/a	n/a		
ocean quahog *(Artica islandica)*	n/a	n/a		
spiny dogfish *(Squalus acanthias)*	n/a	n/a		
tilefish *(Lopholatilus chamaeleonticeps)*				
king mackerel *(Scomberomorus cavalla)*	X	X	X	X
Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X

cobia *(Rachycentron canadum)*	X	X	X	X
sand tiger shark *(Odontaspis taurus)*		X		

The following is an evaluation on the effects on the EFH associated with Grid #3 designation:

Atlantic salmon (*Salmo salar*) – See Grid #1 designation description above.

Pollock (*Pollachius virens*) – See Grid #1 designation description above.

Red hake (*Urophycis chuss*) – See Grid #1 designation description above.

Winter flounder (*Pseudopleuronectes americanus*) – See Grid #1 designation description above.

Windowpane flounder (*Scopthalmus aquosus)* - See Grid #1 designation description above.

Atlantic Sea Herring (*Clupea harengus*) – See Grid #1 designation description above.

Bluefish (*Pomatomus saltatrix*) – See Grid #1 designation description above.

Atlantic Mackerel (*Scomber scombrus*) – See Grid #1 designation description above.

Summer Founder (P*aralicthys dentatus*) – See Grid #1 designation description above.

Scup (*Stenotomus chrysops*) – The egg, larvae and juvenile life stages of the species are found in this designation. Scup eggs are buoyant and therefore pelagic and should not be impacted by on-bottom aquaculture activities such as hydraulic dredging. After reaching 15-30 mm in total length the larvae become demersal (Able and Fahay 1998). However, because there is very little information available on habitat use or requirements during this transition period it is difficult to assess any significant adverse impacts to this life stage by the proposed action. The juveniles can be found in the proposed project area but because they are mobile they can avoid any impacts that may be associated with the proposed action.

Black Sea Bass (*Centropristus striata*) – See Grid #1 designation description above.

King Mackerel (*Scomberomorus cavalla*) and Spanish Mackerel (*Scomberomorus maculates*) – See Grid #1 designation description above.

Cobia (*Rachycentron canadum*) – See Grid #1 designation description above.

Sand Tiger Shark (*Odontaspis Taurus*) – See Grid #1 designation description above.

6.4 Essential Fish Habitat Grid #4

10' x 10' Square Coordinates:

Boundary	North	East	South	West
Coordinate	41 ^{o} 10.0' N	72 ^{o} 10.0' W	41 ^{o} 00.0' N	72 ^{o} 20.0' W

Square Description (i.e. habitat, landmarks, coastline markers): Waters within the square within Gardiners Bay affecting the following: Orient, NY, Ram Island, Coecles Harbor, Three Mile Harbor, and Northwest Harbor, along with around the eastern half of Shelter I., North Haven Peninsula, Barcelona Neck, and the Northwest Creek, north of Sag Harbor, NY, from Hay Beach to east of West Neck Harbor.

Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon *(Salmo salar)*			X	X
Atlantic cod *(Gadus morhua)*				
haddock *(Melanogrammus aeglefinus)*				
pollock *(Pollachius virens)*				
whiting *(Merluccius bilinearis)*				
offshore hake *(Merluccius albidus)*				
red hake *(Urophycis chuss)*				
white hake *(Urophycis tenuis)*				
redfish *(Sebastes fasciatus)*	n/a			
witch flounder *(Glyptocephalus cynoglossus)*				

winter flounder *(Pleuronectes americanus)*	X	X	X	X
yellowtail flounder *(Pleuronectes ferruginea)*				
windowpane flounder *(Scopthalmus aquosus)*	X	X	X	X
American plaice *(Hippoglossoides platessoides)*				
ocean pout *(Macrozoarces americanus)*				
Atlantic halibut *(Hippoglossus hippoglossus)*				
Atlantic sea scallop *(Placopecten magellanicus)*				
Atlantic sea herring *(Clupea harengus)*			X	X
monkfish *(Lophius americanus)*				
bluefish *(Pomatomus saltatrix)*			X	X
long finned squid *(Loligo pealei)*	n/a	n/a		
short finned squid *(Illex illecebrosus)*	n/a	n/a		
Atlantic butterfish *(Peprilus triacanthus)*				
Atlantic mackerel *(Scomber scombrus)*	X	X	X	X
summer flounder *(Paralicthys dentatus)*			X	
scup *(Stenotomus chrysops)*	X	X	X	X
black sea bass *(Centropristus striata)*	n/a		X	X
surf clam *(Spisula solidissima)*	n/a	n/a		
ocean quahog *(Artica islandica)*	n/a	n/a		
spiny dogfish *(Squalus acanthias)*	n/a	n/a		
tilefish *(Lopholatilus chamaeleonticeps)*				

king mackerel *(Scomberomorus cavalla)*	X	X	X	X
Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X
cobia *(Rachycentron canadum)*	X	X	X	X
sand tiger shark *(Odontaspis taurus)*		X		
blue shark (*Prionace glauca)*				X

The following is an evaluation on the effects on the EFH associated with Grid #4 designation:

Atlantic salmon (*Salmo salar*) – See Grid #1designation description above.

Winter flounder (*Pseudopleuronectes americanus*) – See Grid #1 designation description above.

Windowpane flounder (*Scopthalmus aquosus)* - See Grid #1designation description above.

Atlantic Sea Herring (*Clupea harengus*) – See Grid #1 designation description above.

Bluefish (*Pomatomus saltatrix*) – See Grid #1 designation description above.

Atlantic Mackerel (*Scomber scombrus*) – See Grid #1 designation description above.

Summer Founder (P*aralicthys dentatus*) – See Grid #4 designation description above.

Scup (*Stenotomus chrysops*) – See Grid #1 designation description above.

Black Sea Bass (*Centropristus striata*) – Both juvenile and adult life stages of this species are found in this designation. According to NOAA Technical Memorandum on black sea bass, juvenile and adult sea bass are usually found in association with rough bottom, shellfish and eelgrass beds, man-made structures in sandy-shelly areas; off-shore clam beds and shell patches may also be used during wintering. Because both the juvenile and adult life stage of this EFH are mobile, no significant adverse impact that is expected from the proposed action. In fact, structures associated with off-bottom shellfish culture and cultured oyster reefs may enhance suitable habitat for this species.

King Mackerel (*Scomberomorus cavalla*) and Spanish Mackerel (*Scomberomorus maculates*) – See Grid #1 designation description above.

Cobia (*Rachycentron canadum*) – See Grid #1 designation description above.

Sand Tiger Shark (*Odontaspis Taurus*) – See Grid #1 designation description above.

6.5 Essential Fish Habitat Grid #5

10' x 10' Square Coordinates:

Boundary	North	East	South	West
Coordinate	41 ^{o} 10.0' N	72 ^{o} 00.0' W	41 ^{o} 00.0' N	72 ^{o} 10.0' W

Square Description (i.e. habitat, landmarks, coastline markers): Atlantic Ocean waters within the square within Gardiners Bay affecting the following: Gardiners Island and part of the northern part of the split of Long Island from just west of Rocky Point and south of Hither Hills State Park past Napeague Bay and Napeague Harbor, Lazy Pt. and Acabonack Harbor to Hog Creek Pt. Also affected are Cartwright I. and Hicks I.

Species	Eggs	Larvae	Juveniles	Adults
Atlantic salmon *(Salmo salar)*			X	X
Atlantic cod *(Gadus morhua)*				
haddock *(Melanogrammus aeglefinus)*				
pollock *(Pollachius virens)*				
whiting *(Merluccius bilinearis)*				
offshore hake *(Merluccius albidus)*				
red hake *(Urophycis chuss)*				
white hake *(Urophycis tenuis)*				
redfish *(Sebastes fasciatus)*	n/a			
witch flounder *(Glyptocephalus cynoglossus)*				
winter flounder *(Pleuronectes americanus)*	X	X	X	X

yellowtail flounder *(Pleuronectes ferruginea)*				
windowpane flounder *(Scopthalmus aquosus)*	X	X	X	X
American plaice *(Hippoglossoides platessoides)*			X	X
ocean pout *(Macrozoarces americanus)*				
Atlantic halibut *(Hippoglossus hippoglossus)*				
Atlantic sea scallop *(Placopecten magellanicus)*				
Atlantic sea herring *(Clupea harengus)*			X	X
monkfish *(Lophius americanus)*				
bluefish *(Pomatomus saltatrix)*			X	X
long finned squid *(Loligo pealei)*	n/a	n/a		
short finned squid *(Illex illecebrosus)*	n/a	n/a		
Atlantic butterfish *(Peprilus triacanthus)*				
Atlantic mackerel *(Scomber scombrus)*	X	X	X	X
summer flounder *(Paralicthys dentatus)*			X	
scup *(Stenotomus chrysops)*	X	X	X	X
black sea bass *(Centropristus striata)*	n/a		X	X
surf clam *(Spisula solidissima)*	n/a	n/a		
ocean quahog *(Artica islandica)*	n/a	n/a		
spiny dogfish *(Squalus acanthias)*	n/a	n/a		
tilefish *(Lopholatilus chamaeleonticeps)*				
king mackerel *(Scomberomorus cavalla)*	X	X	X	X

Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X
cobia *(Rachycentron canadum)*	X	X	X	X
sand tiger shark *(Odontaspis taurus)*		X		
blue shark (*Prionace glauca)*				X
dusky shark *(Charcharinus obscurus)*		X		
sandbar shark *(Charcharinus plumbeus)*		X	X	X

The following is an evaluation on the effects on the EFH associated with Grid #5 designation:

Atlantic salmon (*Salmo salar*) – See Grid #1designation description above.

Winter flounder (*Pseudopleuronectes americanus*) – See Grid #1 designation description above.

Windowpane flounder (*Scopthalmus aquosus)* - See Grid #1designation description above.

American Plaice (*Hippoglossoides platessoides*) – This species is present in this designation during juvenile and adult life stages. According to the NOAA Technical Memorandum NMFS-NE-187 – EFH on American Plaice (Johnson, 2004), generally both juveniles and adults of this species are found in water depths between 45 and 175 meters. Therefore, no significant adverse impacts to this EFH are expected from the proposed action.

Atlantic Sea Herring (*Clupea harengus*) – See Grid #1 designation description above.

Bluefish (*Pomatomus saltatrix*) – See Grid #1 designation description above.

Atlantic Mackerel (*Scomber scombrus*) – See Grid #1 designation description above.

Summer Founder (P*aralicthys dentatus*) – According to NOAA Technical Memorandum on Summer Flounder, larvae are most abundant at depths between 30 to 230 feet and therefore no significant adverse impact from the proposed action is expected to this life stage. Both juveniles who use several estuarine habitats as nursery areas and adults who

generally inhabit shallow coastal and estuarine waters during the warmer months could be found in the project area. However, both of these life stages are mobile and can avoid any impacts associated with the proposed action.

Scup (*Stenotomus chrysops*) – See Grid #1 designation description above.

Black Sea Bass (*Centropristus striata*) – See Grid #1 designation description above.

King Mackerel (*Scomberomorus cavalla*) and Spanish Mackerel (*Scomberomorus maculates*) – See Grid #1 designation description above.

Cobia (*Rachycentron canadum*) – See Grid #1 designation description above.

Sand Tiger Shark (*Odontaspis Taurus*) – See Grid #1 designation description above.

Blue Shark (*Prionace glauca*) – See Grid #1 designation description above.

Dusky Shark (*Charcharinus obscurus*) – See Grid #1 designation description above.

Sandbar Shark (*Charcharinus plumbeus*) – See Grid #1 designation description above.

7.0 Impact Assessment of Proposed Project

This section of the report discusses the potential impacts on the essential fish habitat designations described above that may result from the proposed project. The impacts are evaluated as direct, indirect and cumulative as they relate to habitat and to species of concern that may be using the habitat.

7.1 Direct Adverse Impact

Direct impacts from this proposed project that may affect the EFH species described above may include: impacts from shellfish harvesting methods; impacts from placement of the structures associated with off-bottom shellfish cultivation; and displacement/attraction of species. However, through proper mitigation as suggested in the DGEIS, all of these impacts will have little or no adverse effect on any of the marine and anadromous species located in the areas designated by the Essential Fish Habitat for the Northeast Council's Coastal Pelagics and Northeast Groundfish Management Plans.

Estuary faunal composition, abundance, and biomass are strongly seasonal in the Northeastern Region of the EFH, with peak abundance and biomass occurring in late Spring (May) and late Summer (August). The only species listed in the designations above that may be slightly effected by the action would be the winter flounder which tends to start their inshore migration to spawning grounds in late fall to early winter. Because the adults and juveniles are mobile, it is expected that they will avoid the area during disturbances from the proposed action. Therefore, there is no expected impact to the EFHs from excessive suspension of sediment into the water column during shellfish harvesting by hydraulic dredging operations.

The placement of structures associated with off-bottom shellfish culture could possibly cause physical disruptions in the immediate areas surrounding the structures, such as increased sediment deposition or sediment scouring. Both of these conditions could impact the EFHs associated with that particular area. Most literature currently available on impacts associated with this type of aquaculture activity suggests that the ecological effects related to aquaculture activities are scale dependent. As described in the DGEIS of this program, mitigation methods to prevent significant adverse impacts to the EFHs of the area include limiting the number of aquaculture leases and limiting acreage of each lease. The Peconic estuary encompasses over 110,000 acres of underwater lands and the proposed action will be concentrated on a very small percentage of those acres; therefore, there is no expected impact to the EFHs from structures used in off-bottom cultivation of shellfish.

Displacement and attraction of species can also be a possible impact associated with the proposed action. As stated in the DGEIS, benthic communities can be altered by both bottom and off-bottom aquaculture infrastructure that provides both substrate attachment, forage and refuge areas, with the potential to increase secondary productivity. In addition, as foundation species, bivalves can influence benthic communities by "creating general habitat, providing refuge from predation, reducing physical and physiological stress, enhancing settlement and recruitment, and increasing food supply." The three-dimensional structure provided by the bivalves themselves or by aquacultural

infrastructure "can be particularly pronounced in areas previously devoid of any relief or hard substrate" and would be expected to attract other species, likely increasing local diversity. Therefore, a positive impact would be expected from the proposed action.

7.2 Indirect Adverse Impacts

No indirect adverse impacts to EFH are expected from the proposed project. In fact, as mentioned above as foundation species, bivalves can influence benthic communities by "creating general habitat, providing refuge from predation, reducing physical and physiological stress, enhancing settlement and recruitment, and increasing food supply."

7.3 Cumulative Adverse Impacts

No cumulative adverse impacts to EFH are expected from the proposed project. In fact, as mentioned above as foundation species, bivalves can influence benthic communities by "creating general habitat, providing refuge from predation, reducing physical and physiological stress, enhancing settlement and recruitment, and increasing food supply."

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Appendix G
Revised Version of the
Shellfish Cultivation Zone Map

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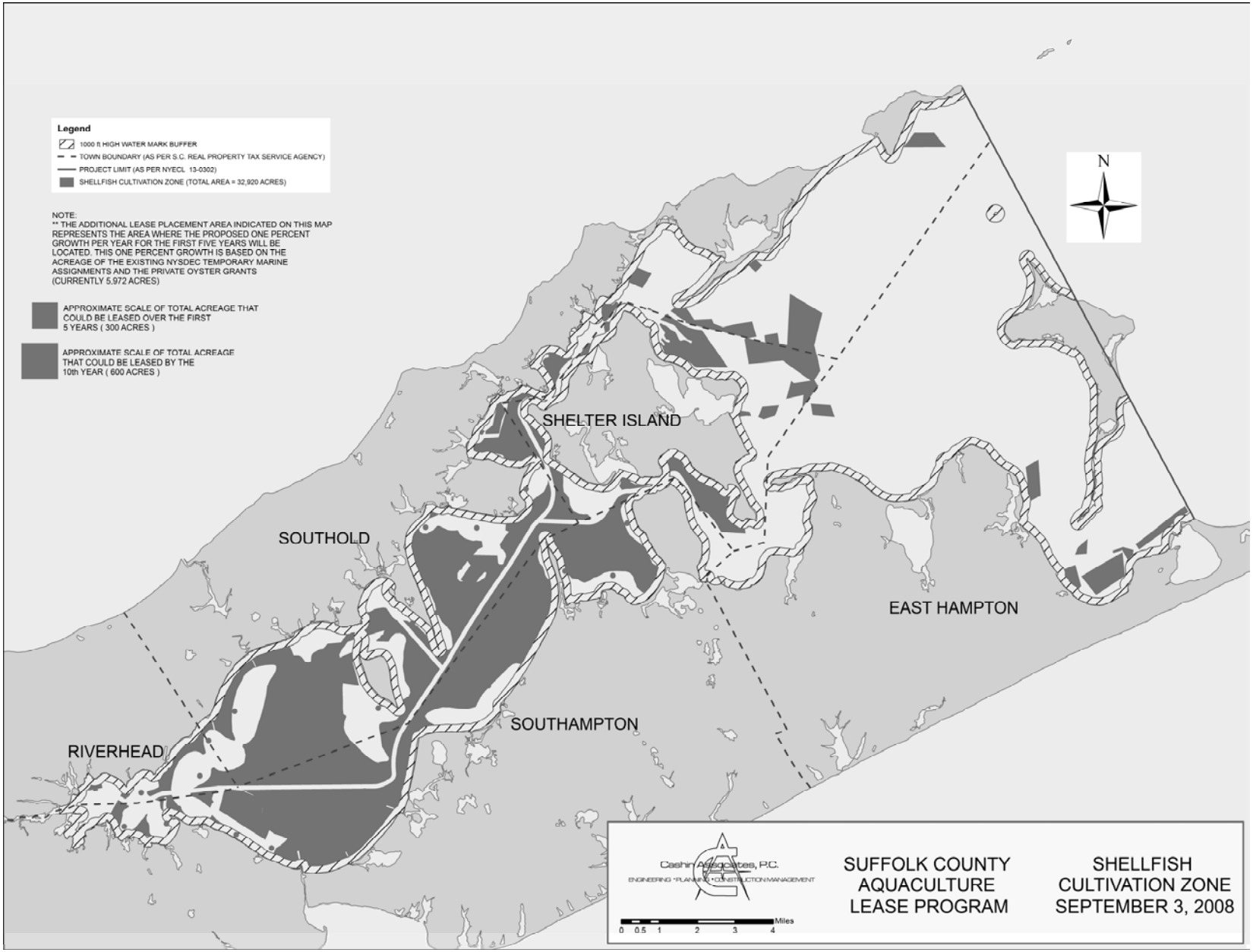
Legend
1000 ft HIGH WATER MARK BUFFER
TOWN BOUNDARY (AS PER S.C. REAL PROPERTY TAX SERVICE AGENCY)
PROJECT LIMIT (AS PER NYECL 13-0302)
SHELLFISH CULTIVATION ZONE (TOTAL AREA = 32,920 ACRES)
NOTE:
** THE ADDITIONAL LEASE PLACEMENT AREA INDICATED ON THIS MAP REPRESENTS THE AREA WHERE THE PROPOSED ONE PERCENT GROWTH PER YEAR FOR THE FIRST FIVE YEARS WILL BE LOCATED. THIS ONE PERCENT GROWTH IS BASED ON THE ACREAGE OF THE EXISTING NYSDEC TEMPORARY MARINE ASSIGNMENTS AND THE PRIVATE OYSTER GRANTS (CURRENTLY 5,972 ACRES)
APPROXIMATE SCALE OF TOTAL ACREAGE THAT COULD BE LEASED OVER THE FIRST 5 YEARS (300 ACRES)
APPROXIMATE SCALE OF TOTAL ACREAGE THAT COULD BE LEASED BY THE 10th YEAR (600 ACRES)
N
SHELTER ISLAND
SOUTHOLD
EAST HAMPTON
SOUTHAMPTON
RIVERHEAD
Cashin Associates, P.C.
ENGINEERING • PLANNING • CONSTRUCTION MANAGEMENT
0 0.5 1 2 3 4 Miles
SUFFOLK COUNTY AQUACULTURE LEASE PROGRAM
SHELLFISH CULTIVATION ZONE SEPTEMBER 3, 2008

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Appendix H
Current and Potential Maximum Use of Underwater Lands for Shellfish Aquaculture in Peconic Bay and Gardiners Bay

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TRANSITION TO THE SUFFOLK COUNTY SHELLFISH AQUACULTURE LEASE PROGRAM: MAXIMUM LEASE SCENARIO

Current Status of Underwater Land Acreage		**Maximum Acreage that Could Be Potentially Leased During the First 10 Years of Lease Program Implementation**
1. Temporary Marine Area Use Assignments 31 Assignments @ 33 sites: 29 @ 5 acres = 145 acres 4 @ 2.5 acres = 10 acres Total 155 acres	→	310 acres
2. Permitted oyster grants for cultivation of species other than oysters, located outside 1,000 ft. shoreline buffer 1,446 acres	→	1,446 acres
3. Permitted oyster grants for cultivation of oysters only, located outside 1,000 ft. buffer 1,119.5 acres	→	No lease required if used for oyster culture only. 177.5 acres if used for other species
4. Fallow grants located outside 1,000 ft. shoreline buffer 2,834.5 acres	→	620 acres
5. New commercial shellfish cultivation leases subject to annual cap limits during the first 10 years of the program 0 acres	→	600 acres
	Total	3,153.5 acres

The total maximum potential lease acreage - 3,153.5 acres - is 2.87% of the 110,000 acres of underwater land subject to County jurisdiction. Of this total, 2,720.5 acres on assignments and grants are already permitted for culture by NYSDEC. The maximum lease scenario is based on the following assumptions:

a.) All parties that now conduct shellfish culture under NYSDEC permit decide to participate in the County lease program.

b.) Lease acreages are calculated using the criteria established in lease program components that govern issuance of leases for the growth, harvest and sale of shellfish for commercial purposes.

c.) All grant title issues are resolved in favor of the owner. (There are 1,141.59 acres of grant lands with title issues located outside of the 1,000 ft. shoreline buffer; portions of this acreage are fallow; used for oyster culture only; or used for the culture of species other than oysters.)

d.) For those grants that are permitted to grow shellfish species other than oysters, grant owners can document that their *entire* grant parcels have been historically used for culture of species other than oysters, e.g., hard clams.

e.) All lease applications for new leases on additional lands survive the lease application/public notice process, and all objections/conflicts are decided in favor of the applicant.

f.) The calculation does not include consideration of Experimental/Educational Leases or Shellfish Restoration Leases. Such non-commercial leases would be evaluated on a case-by-case basis, and would not be subject to the annual acreage cap limits for new leases.

Current NYSDEC Temporary Marine Area Use Assignments in Peconic and Gardiners Bays

Date Issued	Species Cultivated[1]	Radius (ft.)	Gear Permitted	Comments
01/02/85	HC, EO	250	70 - 8'x8'x7' wood racks	Raritan Bay relay site
07/21/93	HC, EO, BM, SC	250	150 – 4'x4'x11" vinyl coated wire mesh cages	
09/12/95	HC, EO, BS, BM, SC	250	250 – 4'x7'x1" vinyl coated wire mesh	
11/13/95	EO	250	400 - 36"x18"x3.5" plastic cages	
11/13/95	EO	250	400 – 36"x18"x3.5" high plastic cages	
06/02/99 (original) 01/05/06 (re-issued)	EO, HC, BS	250	50 - 3'x3'x3' vinyl coated wire mesh cages	
08/18/00	EO, HC, BS	250	300 - 36"x18"x2" plastic mesh cages	
10/06/00	EO, HC, SC, BM, BS, RC	250	100 - 6'x10'x5' cages 500 - 36"x20"x2.5" plastic mesh bags	
10/10/00	EO, HC, SC, BM, BS, RC	250	100 - 6'x10'x5' cages 500 - 36"x20"x2.5" plastic mesh bags 10 - 10'x6' upweller rafts with 3'x3' trays	
01/02/01	EO, HC, SC, BM, BS	187 each	300 - 6'x3'x4' wire mesh cages at each site	
04/05/01	EO, HC, BM, BS	250	200 - 2.5'x3'x4.5' steel and plastic mesh cages	
07/24/01	EO, BS	250	200 - 3'x3'x3' vinyl coated wire mesh cages	
07/29/02	EO, HC, BM, BS, SC	250	400 - 6'x3'x4' wire mesh and wood cages each containing up to 12 poly mesh shellfish bags	
10/07/02	EO, HC, SC, BS	250	500 - 3'x3'x2' plastic mesh cages	
07/16/99 (original) 07/07/03 (re-issued)	EO, HC, BS	250	50 - 3'x3'x3' vinyl coated mesh cages	
04/09/04	EO, BS	250	60 – 50"x36.5"x36.5" cages	
04/26/04	EO, BS	250	70 - 50"x36.5"x36.5" cages	
07/25/97 (original) 01/27/05 (re-issued)	EO, HC, BS	250	200 - 54"x36"x24" steel and plastic mesh cages	
09/14/05	EO, HC, BS	250	200 - 42"x36"x36" steel and plastic cages	
10/03/06	EO, HC, BS	250	250 - 3'x18"x3" cages	
11/06/06	EO, HC, BS, BM, SC	250	300 - 4.5'x4.5'x2' cages	
11/06/06	EO, HC, BS, BM, SC	250	300 - 4.5'x4.5'x2' cages	
01/10/08	EO, HC, BS	250	200 - 42"x36"x36" steel and plastic cages	
01/17/08	EO	250	250 - 4'x3'x3" mesh cages	
pending	EO	250	10 - 4.5'x3'x2' mesh cages	
01/10/08	EO, BS	250	1,056 - 2'x3'x3" shellfish bags on long lines	
09/09/04	EO	187 each	100 - 3'x3'x3' cages	

Current NYSDEC Temporary Marine Area Use Assignments in Peconic and Gardiners Bays

Date Issued	Species Cultivated[1]	Radius (ft.)	Gear Permitted	Comments
01/10/08	EO, BS, HC, BM, SS	250	1,200 - 30"x30"x96" cages 400 - 20"x8' lantern nets 500 - 20"x24" pearl nets up to 15,000 - 20"x40"x3" shellfish bags	
2008	EO	250	75- 4'x4'x4" mesh cages	
pending	EO	250	100- 3'x4'x4' cages	
pending		250		

[1] EO - Eastern Oyster, HC - Hard Clam, SC - Soft Clam, BS - Bay Scallop, SS - Sea Scallop, BM - Blue Mussel, RC - Razor Clam

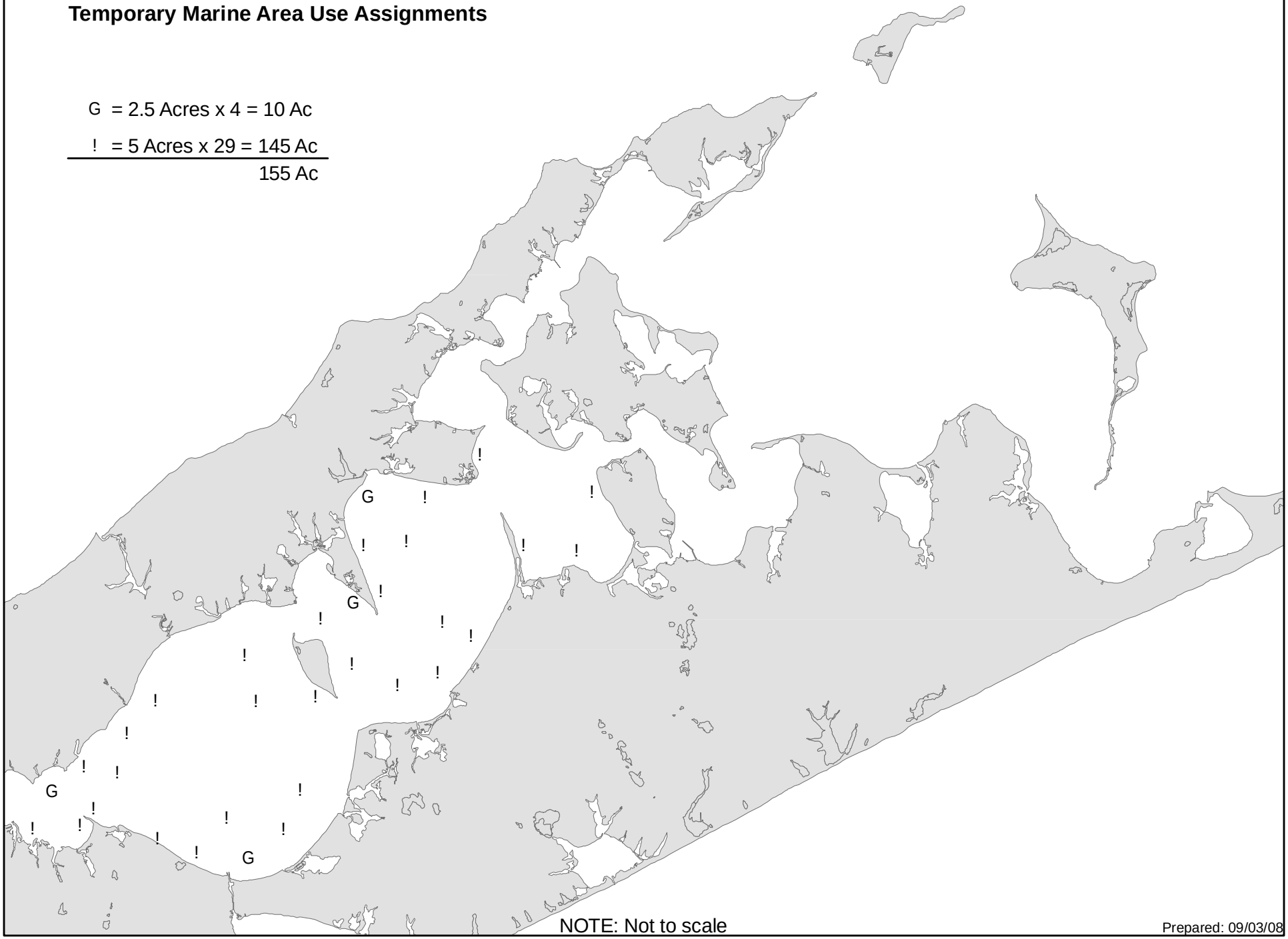
Source: NYSDEC, Bureau of Marine Resources, 2008

Temporary Marine Area Use Assignments

G = 2.5 Acres x 4 = 10 Ac

! = 5 Acres x 29 = 145 Ac

155 Ac



Private and Title Issue Oyster Grants

	DSBL	Oyster Lot(s)	Total Ac. (SCRPTM)	Approx. Ac. Within 1,000 ft. buffer	Approx. Ac. Outside 1,000 ft. buffer
1	0300 20300 0100 017000	356	106	0	106
2	0300 20400 0400 011000	381	50.00	-	50
3	0300 20400 0400 014000	383	126.50	22	104.50
4	0300 20400 0500 002000	421	118.00	24	94
5	0300 20400 0500 006000	422	47.00	-	47
6	0300 20400 0500 022000	437	58.00	10	48
7	0600 15000 0100 004000	2	40	15	25
8	0600 15000 0200 002000	25	5	0	5
9	0700 02800 0100 012000	529	205	0	205
10	0700 02800 0100 013000	530	115	0	115
11	0700 02800 0100 015000	531	357	0	357
12	0700 02800 0100 019000	444	1	0	1
13	0700 02800 0100 020000	445	32.00	-	32
14	0700 02800 0100 021000	446	65	0	65
15	0700 02800 0100 022000	447	100	0	100
16	0700 02800 0100 027000	451	86	0	86
17	0700 02800 0100 087000	506	6.00	4	2
18	0700 02800 0100 088000	507	33	8	25
19	0700 02800 0100 089000	508	6	5	1
20	0700 02800 0100 094000	512	8	8	0
21	0700 02800 0100 095000	513	23	22.5	0.5
22	0700 02800 0100 096000	514	39	27	12
23	0700 02800 0100 099000	517	50.00	27	23
24	0900 00100 0100 010002	293A	477	0	477
25	0900 00100 0200 030000	543	0.58	0.58	-
26	0900 15400 0100 013000	249	19	0	19
27	0900 15400 0100 015000	248	3.00	-	3
28	0900 15400 0200 002000	252	49	0	49
29	0900 15400 0200 003000	253	74	0	74
30	0900 15400 0200 005000	254	191	0	191
31	0900 15400 0200 006000	257	35.00	-	35
32	0900 15400 0200 008000	258	82.00	-	82
33	0900 15400 0200 009000	259	101.00	-	101
34	0900 15400 0200 011000	261	71.00	-	71
35	1000 13200 0100 002000	184	124.00	6	118
36	1000 13200 0100 007000	191	6.00	-	6
37	1000 13200 0100 010000	197	78.00	-	78
38	1000 13200 0100 012000	213	60.00	18	42
39	1000 13200 0100 017000	198	197.00	-	197
40	1000 13200 0100 020000	203	60.00	-	60
41	1000 13200 0100 022000	206	83.00	-	83
42	1000 13200 0100 023000	207	285.00	-	285
43	1000 13200 0100 024000	208	298.00	-	298
44	1000 13300 0100 003000	96, 107	334	0	334
45	1000 13300 0100 005000	113	60.00	19	41
46	1000 13300 0100 009000	116	263.00	-	263
47	1000 13300 0100 020000	139, 145	246	0	246
48	1000 13300 0100 021000	140	31.00	-	31
49	1000 13300 0100 025000	151	13	8	5

Prepared: 09/03/08

Private and Title Issue Oyster Grants

	DSBL	Oyster Lot(s)	Total Ac. (SCRPTM)	Approx. Ac. Within 1,000 ft. buffer	Approx. Ac. Outside 1,000 ft. buffer
50	1000 13300 0100 026000	150	30	0	30
51	1000 13300 0100 028001	154	57.00	-	57
52	1000 13300 0100 028002	153	37	0	37
53	1000 13300 0100 030000	550	3.00	-	3
54	1000 13300 0200 001000	157	18	18	0
55	1000 13300 0200 002000	158	6.00	2	4
56	1000 13300 0200 007000	164	3	3	0
57	1000 13300 0200 008000	165	15	15	0
58	1000 13300 0200 009000	162	199.00	65	134
59	1000 13300 0200 012000	173	2.00	-	2
60	1000 13300 0200 016001	179	144.00	43	101
61	1000 13400 0300 006000	57	225.00	8	217
62	1000 13400 0300 009000	61	71.00	44	27
63	1000 13400 0300 014000	64	40.00	-	40
64	1000 13400 0300 020002	74	28.00	-	28
65	1000 13400 0400 006002	77	27.00	-	27
		Total =	**5,822.08**	**422.08**	**5,400.00**

Prepared: 09/03/08

Private & Title Issue
Oyster Grants

Count: 65

Area: 5,822 Ac

Prepared: 09/03/08

Private Oyster Grants

	DSBL	Oyster Lot(s)	Total Ac. (SCRPTM)	Approx. Ac. Within 1,000 ft. buffer	Approx. Ac. Outside 1,000 ft. buffer
1	0300 20300 0100 017000	356	106	0	106
2	0300 20400 0500 002000	421	118.00	24	94
3	0300 20400 0500 022000	437	58.00	10	48
4	0600 15000 0100 004000	2	40	15	25
5	0700 02800 0100 012000	529	205	0	205
6	0700 02800 0100 013000	530	115	0	115
7	0700 02800 0100 015000	531	357	0	357
8	0700 02800 0100 019000	444	1	0	1
9	0700 02800 0100 020000	445	32.00	-	32
10	0700 02800 0100 021000	446	65	0	65
11	0700 02800 0100 022000	447	100	0	100
12	0700 02800 0100 027000	451	86	0	86
13	0700 02800 0100 087000	506	6.00	4	2
14	0700 02800 0100 088000	507	33	8	25
15	0700 02800 0100 089000	508	6	5	1
16	0700 02800 0100 094000	512	8	8	0
17	0700 02800 0100 095000	513	23	22.5	0.5
18	0700 02800 0100 096000	514	39	27	12
19	0700 02800 0100 099000	517	50.00	27	23
20	0900 00100 0200 030000	543	0.58	0.58	-
21	0900 15400 0200 006000	257	35.00	-	35
22	0900 15400 0200 008000	258	82.00	-	82
23	0900 15400 0200 009000	259	101.00	-	101
24	0900 15400 0200 011000	261	71.00	-	71
25	1000 13200 0100 002000	184	124.00	6	118
26	1000 13200 0100 007000	191	6.00	-	6
27	1000 13200 0100 010000	197	78.00	-	78
28	1000 13200 0100 012000	213	60.00	18	42
29	1000 13200 0100 017000	198	197.00	-	197
30	1000 13200 0100 022000	206	83.00	-	83
31	1000 13200 0100 023000	207	285.00	-	285
32	1000 13200 0100 024000	208	298.00	-	298
33	1000 13300 0100 003000	96, 97, 98, 100, 101, 107	334	0	334
34	1000 13300 0100 005000	113	60.00	19	41
35	1000 13300 0100 009000	116	263.00	-	263
36	1000 13300 0100 020000	139, 145, 146	246	0	246
37	1000 13300 0100 021000	140, 141	31.00	-	31
38	1000 13300 0100 025000	151	13	8	5
39	1000 13300 0100 026000	150	30	0	30
40	1000 13300 0100 028001	154, 156	57.00	-	57
41	1000 13300 0100 028002	153	37	0	37
42	1000 13300 0200 001000	157	18	18	0
43	1000 13300 0200 007000	164	3	3	0
44	1000 13300 0200 008000	165	15	15	0
45	1000 13300 0200 009000	162, 166	199.00	65	134
46	1000 13300 0200 012000	173	2.00	-	2
47	1000 13300 0200 016001	179	144.00	43	101
48	1000 13400 0300 006000	57	225.00	8	217

Private Oyster Grants

	DSBL	Oyster Lot(s)	Total Ac. (SCRPTM)	Approx. Ac. Within 1,000 ft. buffer	Approx. Ac. Outside 1,000 ft. buffer
49	1000 13400 0300 009000	61	71.00	44	27
50	1000 13400 0300 014000	64	40.00	-	40
		Total =	**4,656.58**	**398.08**	**4,258.50**

Prepared: 09/03/08

Private
Oyster Grants

Count: 50

Area: 4,656 Ac

Prepared: 09/03/08

Oyster Grants with Title Issues

	DSBL	Oyster Lot	Total Ac. (SCRPTM)	Approx. Ac. Within 1,000 ft. buffer	Approx. Ac. Outside 1,000 ft. buffer
1	0300 20400 0400 011000	381	50.00	-	50.00
2	0300 20400 0400 014000	383	126.50	21.71	104.79
3	0300 20400 0500 006000	422	47.00	-	47.00
4	0600 15000 0200 002000	25	5.00	-	5.00
5	0900 00100 0100 010002	293	477.00	-	477.00
6	0900 15400 0100 013000	249	19.00	-	19.00
7	0900 15400 0100 015000	248	3.00	-	3.00
8	0900 15400 0200 002000	252	49.00	-	49.00
9	0900 15400 0200 003000	253	74.00	-	74.00
10	0900 15400 0200 005000	254	191.00	-	191.00
11	1000 13200 0100 020000	203	60.00	-	60.00
12	1000 13300 0100 030000	550	3.00	-	3.00
13	1000 13300 0200 002000	158	6.00	2.20	3.80
14	1000 13400 0300 020002	74	28.00	-	28.00
15	1000 13400 0400 006002	77	27.00	-	27.00
		Total =	**1,165.50**	**23.91**	**1,141.59**

Prepared: 09/03/08

Oyster Grants with Title Issues

Count: 15

Area: 1,165 Ac

Prepared: 09/03/08

Permitted Oyster Grants 2007/2008

Oyster Lot(s)	DSBL	Ownership	Total Ac. (SCRPTM)	Approx. Ac. Within 1,000 ft. buffer	Approx. Ac. Outside 1,000 ft. buffer	Maximum Potential Lease Ac.	Permitted Species
151	1000 13300 0100 025000	Private	13	8	5	5	O
157	1000 13300 0200 001000	Private	18	18	0	0	O
356	0300 20300 0100 017000	Private	106	0	106	20	O
444	0700 02800 0100 019000	Private	1	0	1	1	O
446	0700 02800 0100 021000	Private	65	0	65	20	O
447	0700 02800 0100 022000	Private	100	0	100	20	O
451	0700 02800 0100 027000	Private	86	0	86	20	O
507	0700 02800 0100 088000	Private	33	8	25	20	O
508	0700 02800 0100 089000	Private	6	5	1	1	O
512	0700 02800 0100 094000	Private	8	8	0	0	O
513	0700 02800 0100 095000	Private	23	22.5	0.5	0.5	O
514	0700 02800 0100 096000	Private	39	27	12	10	O
530	0700 02800 0100 013000	Private	115	0	115	20	O
531	0700 02800 0100 015000	Private	357	0	357	20	O
139, 145	1000 13300 0100 020000	Private	246	0	246	20	O
		Subtotal =	**1,216.00**	**96.50**	**1,119.50**	**177.50**	
2	0600 15000 0100 004000	Private	40	15	25	25	O, C, S
25	0600 15000 0200 002000	Title Problem	5	0	5	5	O, S
150	1000 13300 0100 026000	Private	30	0	30	30	O, C
153	1000 13300 0100 028002	Private	37	0	37	37	O, C
164	1000 13300 0200 007000	Private	3	3	0	0	O, C, S
165	1000 13300 0200 008000	Private	15	15	0	0	O, C, S
249	0900 15400 0100 013000	Title Problem	19	0	19	19	O, S
252	0900 15400 0200 002000	Title Problem	49	0	49	49	O, S
253	0900 15400 0200 003000	Title Problem	74	0	74	74	O, S
254	0900 15400 0200 005000	Title Problem	191	0	191	191	O, S
529	0700 02800 0100 012000	Private	205	0	205	205	O, C, S
293A	0900 00100 0100 010002	Title Problem	477	0	477	477	O, C
96, 107	1000 13300 0100 003000	Private	334	0	334	334	O, S
		Subtotal =	**1,479.00**	**33.00**	**1,446.00**	**1,446.00**	
		Grand Total =	**2,695.00**	**129.50**	**2,565.50**	**1,623.50†**	

O = Oysters, C = Clams, S = Scallops

† Value represents maximum possible lease acreage assuming parcels permitted for species other than oysters receive a lease for their entire grant acreage outside the 1,000 ft buffer.

Prepared: 09/03/08

NYSDEC On/Off Bottom Culture Permits Issued for Privately Held Underwater Lands / Oyster Grants in Peconic and Gardiners Bays, 2007 - 2008

Permittee	Permit No.	Oyster Lot	Total Ac. (SCRPTM)	Approx. Ac. within 1000 ft buffer	Approx. Ac. outside 1000 ft buffer	Area	Year	Comment
Twin Fork Oyster	66	2*	40	15	25	Flanders Bay	2008	O, C, S
J. Kraus	63	25	5	-	5	Great Peconic Bay	2008	O, S
		249	19	-	19			
		252	49	-	49			
		253	74	-	74			
		254	191	-	191			
Coastal Farms & Hampton Shellfish Co.	1	293A	477	-	477	Great Peconic Bay	2008	O, C
	83							
Peconic Gold Corp.	116	96	334†	-	334	Little Peconic Bay	2008	O, S
Peconic Bay Seafood Ltd.	112	107						
Paradise Point Oyster Farms	37	139	246	-	246	Southold Bay	2007	O
		145						
		151*	13	8	5			
		157**	18	18	-			
		512**	8	8	-	Dering Harbor		
		356	106	-	106	Gardiners Bay		
		444	1	-	1			
		446	65	-	65			
		447	100	-	100			
		530	115	-	115			
		531	357	-	357			
Aeros Cultured Oyster Co.	36	150	30	-	30	Southold Bay	2008	O, C
		153	37	-	37			
		529	205	-	205	Gardiners Bay		O, C, S
The World Is My Oyster	101	507*	33	8	25	Southold Bay	2008	O
		508*	6	5	1			
		513*	23	22.5	0.5			
		514*	39	27	12			
		451	86	-	86	Gardiners Bay		
D. Yaxa	33	164**	3	3	-	Pipes Cove	2008	O, C, S
- E. Jurzenia	86	165**	15	15	-			
- R. Nelson	113							
			2,695††	129.50	2,565.50††			

O = Oysters, C = Clams, S = Scallops

† = Acreage indicates that of total tax parcel. Oyster lots 96 and 107 represent a 57 and 61 acre subset respectively.

†† = Totals include additional unpermitted acerage associated with Suffolk County Tax Map parcel.

* A portion of the oyster grant falls within the 1,000 ft shoreline buffer.

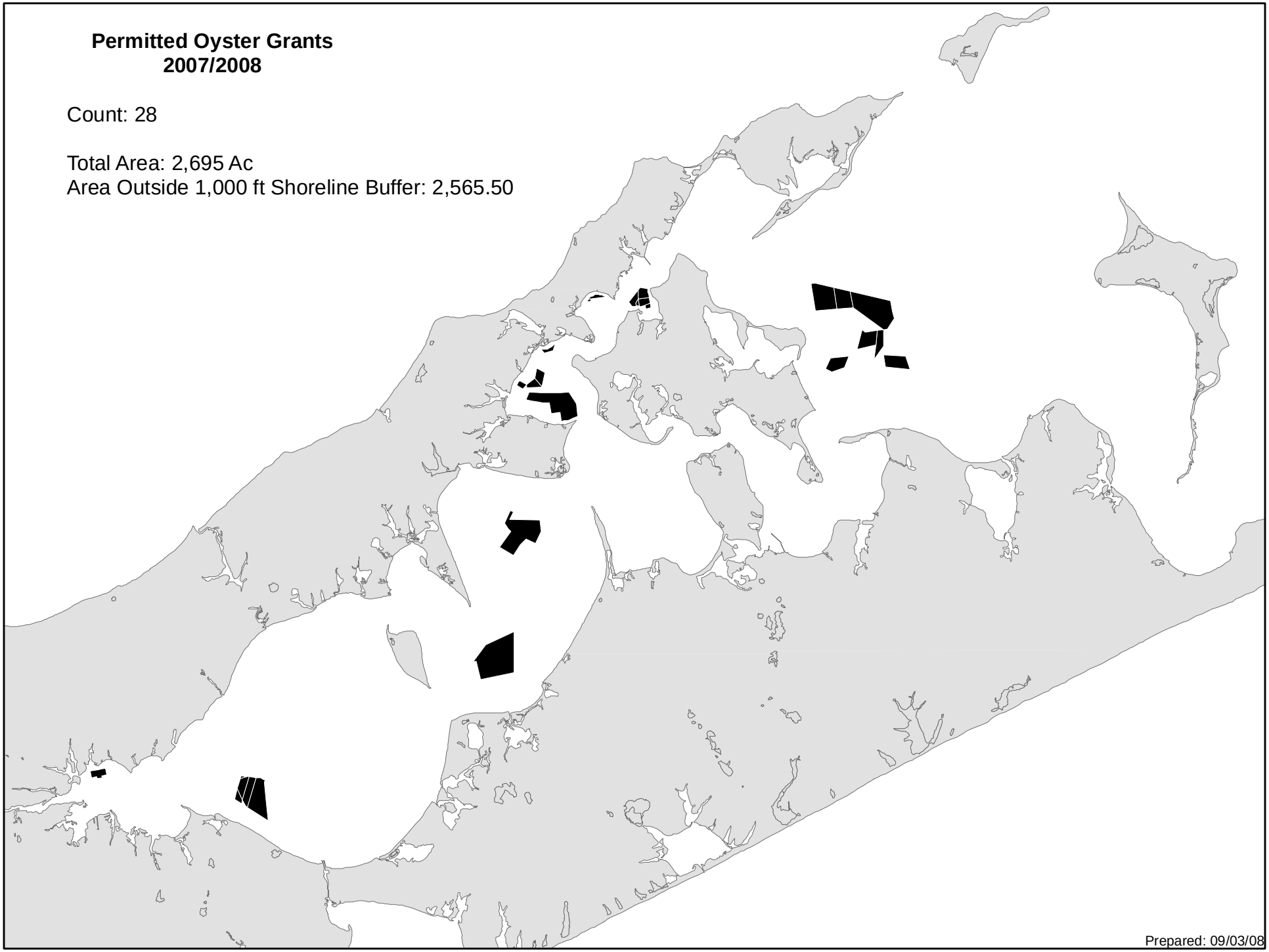
** The entire grant acerage falls within the 1,000 ft shoreline buffer.

Prepared: 09/03/08

Permitted Oyster Grants
2007/2008

Count: 28

Total Area: 2,695 Ac
Area Outside 1,000 ft Shoreline Buffer: 2,565.50



Prepared: 09/03/08

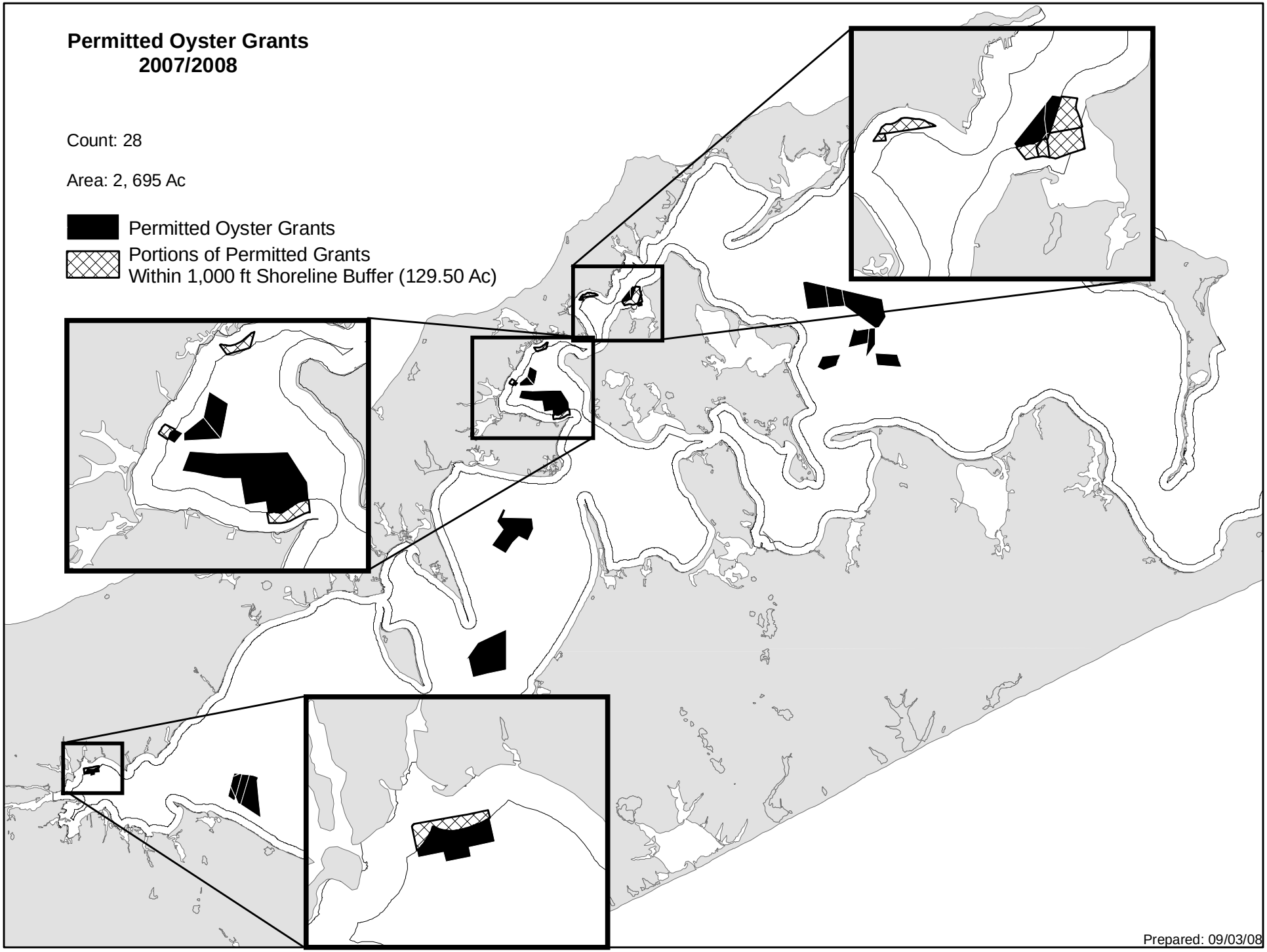
Permitted Oyster Grants
2007/2008

Count: 28

Area: 2, 695 Ac

Permitted Oyster Grants

Portions of Permitted Grants
Within 1,000 ft Shoreline Buffer (129.50 Ac)



Prepared: 09/03/08

Oyster Grants Permitted for Species Other Than Oysters 2007/2008

Oyster Lot(s)	DSBL	Ownership	Total Ac. (SCRPTM)	Approx. Ac. Within 1,000 ft. buffer	Approx. Ac. Outside 1,000 ft. buffer	Maximum Potential Lease Ac.	Permitted Species
2	0600 15000 0100 004000	Private	40	15	25	25	O, C, S
25	0600 15000 0200 002000	Title Problem	5	0	5	5	O, S
150	1000 13300 0100 026000	Private	30	0	30	30	O, C
153	1000 13300 0100 028002	Private	37	0	37	37	O, C
164	1000 13300 0200 007000	Private	3	3	0	0	O, C, S
165	1000 13300 0200 008000	Private	15	15	0	0	O, C, S
249	0900 15400 0100 013000	Title Problem	19	0	19	19	O, S
252	0900 15400 0200 002000	Title Problem	49	0	49	49	O, S
253	0900 15400 0200 003000	Title Problem	74	0	74	74	O, S
254	0900 15400 0200 005000	Title Problem	191	0	191	191	O, S
529	0700 02800 0100 012000	Private	205	0	205	205	O, C, S
293A	0900 00100 0100 010002	Title Problem	477	0	477	477	O, C
96, 107	1000 13300 0100 003000	Private	334	0	334	334	O, S
		Total =	**1,479.00**	**33.00**	**1,446.00**	**1,446.00**	

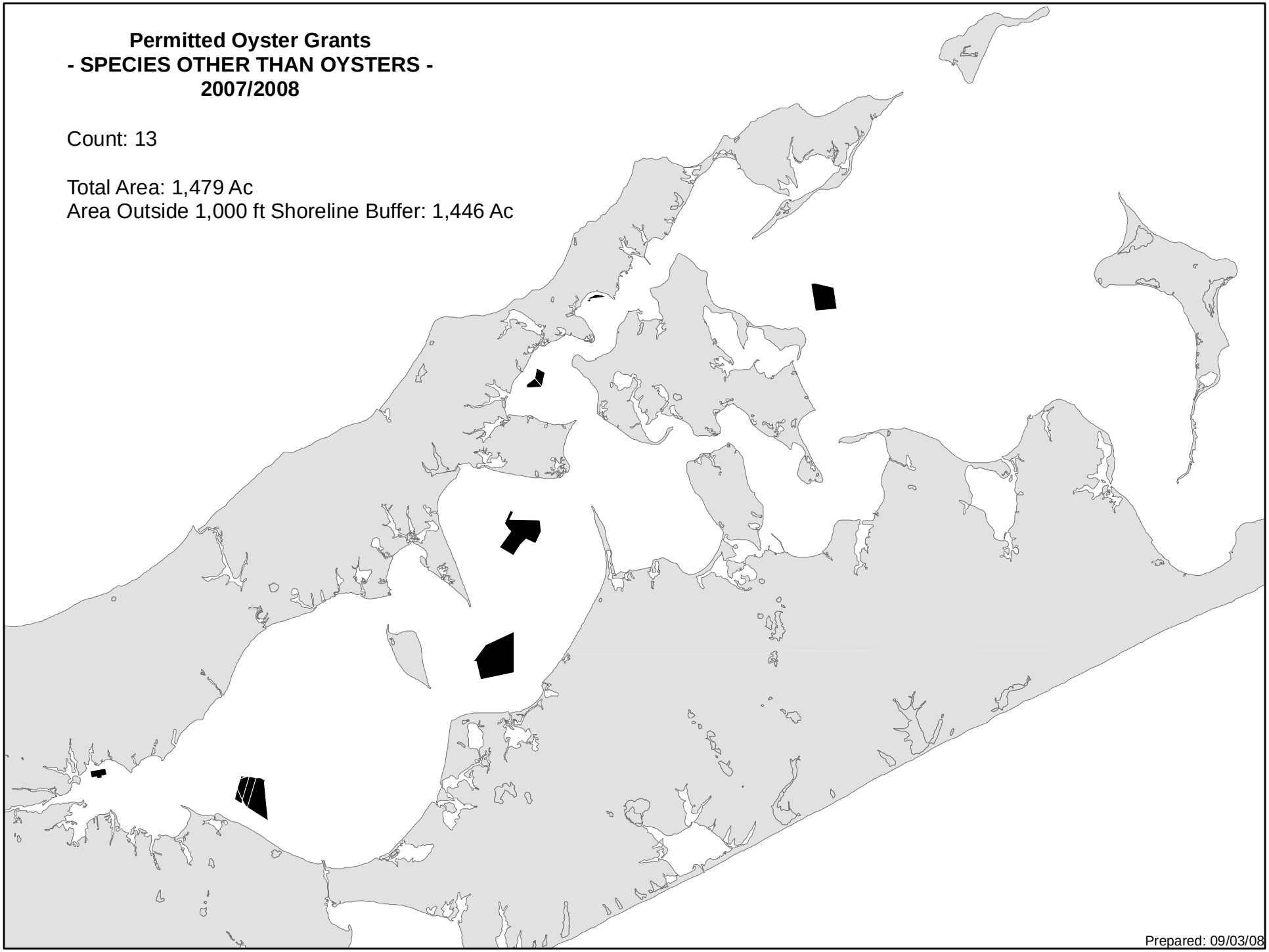
O = Oysters, C = Clams, S = Scallops

Prepared: 09/03/08

Permitted Oyster Grants
- SPECIES OTHER THAN OYSTERS -
2007/2008

Count: 13

Total Area: 1,479 Ac
Area Outside 1,000 ft Shoreline Buffer: 1,446 Ac



Prepared: 09/03/08

Oyster Grants Permitted for Oysters Only
2007/2008

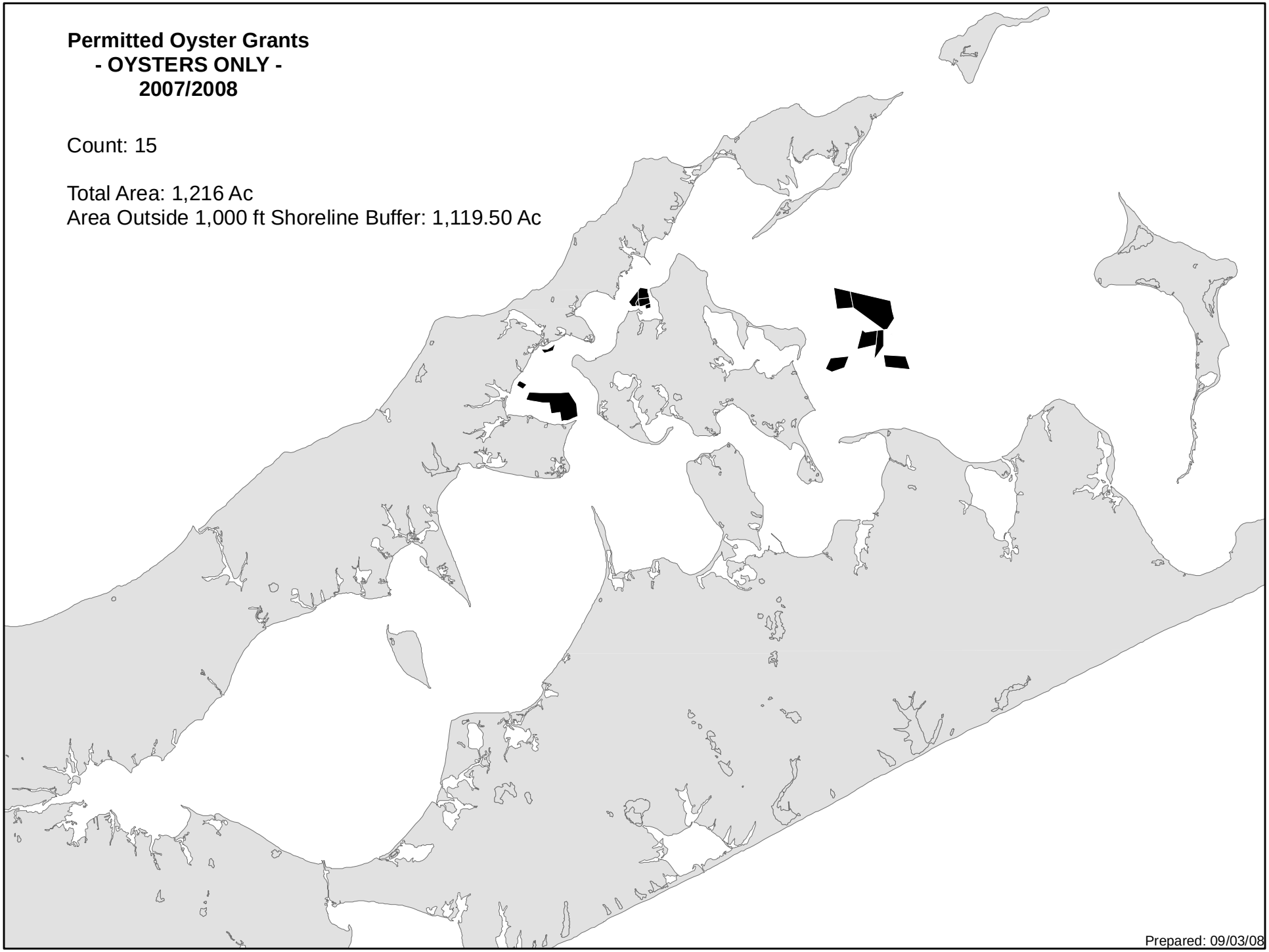
Oyster Lot(s)	DSBL	Ownership	Total Ac. (SCRPTM)	Approx. Ac. Within 1,000 ft. buffer	Approx. Ac. Outside 1,000 ft. buffer	Maximum Potential Lease Ac.
151	1000 13300 0100 025000	Private	13	8	5	5
157	1000 13300 0200 001000	Private	18	18	0	0
356	0300 20300 0100 017000	Private	106	0	106	20
444	0700 02800 0100 019000	Private	1	0	1	1
446	0700 02800 0100 021000	Private	65	0	65	20
447	0700 02800 0100 022000	Private	100	0	100	20
451	0700 02800 0100 027000	Private	86	0	86	20
507	0700 02800 0100 088000	Private	33	8	25	20
508	0700 02800 0100 089000	Private	6	5	1	1
512	0700 02800 0100 094000	Private	8	8	0	0
513	0700 02800 0100 095000	Private	23	22.5	0.5	0.5
514	0700 02800 0100 096000	Private	39	27	12	10
530	0700 02800 0100 013000	Private	115	0	115	20
531	0700 02800 0100 015000	Private	357	0	357	20
139, 145	1000 13300 0100 020000	Private	246	0	246	20
		Total =	**1,216.00**	**96.50**	**1,119.50**	**177.50**

Prepared: 09/03/08

Permitted Oyster Grants
- OYSTERS ONLY -
2007/2008

Count: 15

Total Area: 1,216 Ac
Area Outside 1,000 ft Shoreline Buffer: 1,119.50 Ac



Prepared: 09/03/08

Non-Permitted (Fallow) Oyster Grants 2007/2008

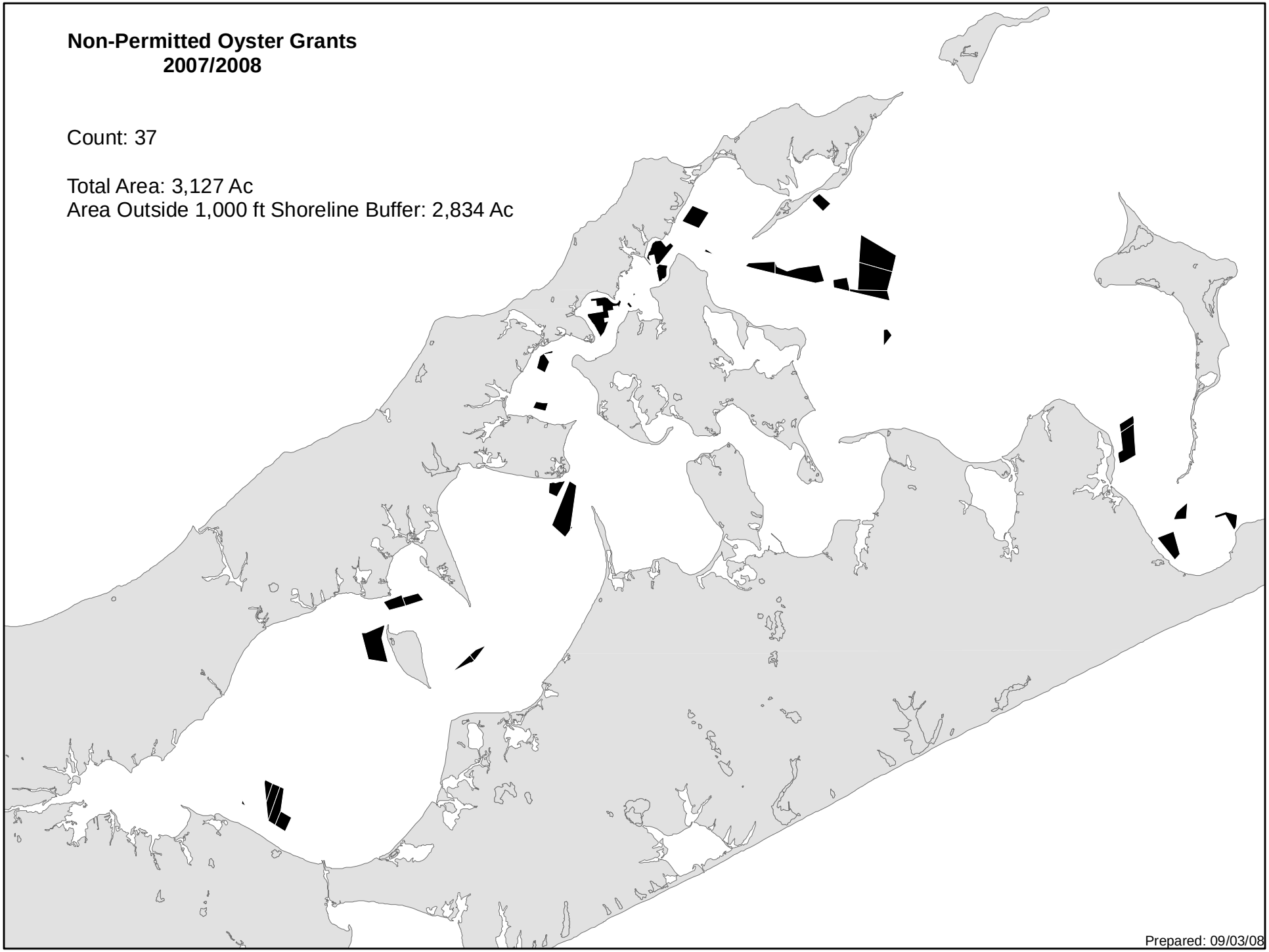
DSBL	Oyster Lot	Total Ac. (SCRPTM)	Approx. Ac. Within 1,000 ft. buffer	Approx. Ac. Outside 1,000 ft. buffer	Potential Lease Ac.
1000 13400 0300 006000	57	225.00	8	217	20
1000 13400 0300 009000	61	71.00	44	27	20
1000 13400 0300 014000	64	40.00	-	40	20
1000 13400 0300 020002	74	28.00	-	28	20
1000 13400 0400 006002	77	27.00	-	27	20
1000 13300 0100 005000	113	60.00	19	41	20
1000 13300 0100 009000	116	263.00	-	263	20
1000 13300 0100 021000	140	31.00	-	31	20
1000 13300 0100 028001	154	57.00	-	57	20
1000 13300 0200 002000	158	6.00	2	4	4
1000 13300 0200 009000	162	199.00	65	134	20
1000 13300 0200 012000	173	2.00	-	2	2
1000 13300 0200 016001	179	144.00	43	101	20
1000 13200 0100 002000	184	124.00	6	118	20
1000 13200 0100 007000	191	6.00	-	6	6
1000 13200 0100 010000	197	78.00	-	78	20
1000 13200 0100 017000	198	197.00	-	197	20
1000 13200 0100 020000	203	60.00	-	60	20
1000 13200 0100 022000	206	83.00	-	83	20
1000 13200 0100 023000	207	285.00	-	285	20
1000 13200 0100 024000	208	298.00	-	298	20
1000 13200 0100 012000	213	60.00	18	42	20
0900 15400 0100 015000	248	3.00	-	3	3
0900 15400 0200 006000	257	35.00	-	35	20
0900 15400 0200 008000	258	82.00	-	82	20
0900 15400 0200 009000	259	101.00	-	101	20
0900 15400 0200 011000	261	71.00	-	71	20
0300 20400 0400 011000	381	50.00	-	50	20
0300 20400 0400 014000	383	126.50	22	104.50	20
0300 20400 0500 002000	421	118.00	24	94	20
0300 20400 0500 006000	422	47.00	-	47	20
0300 20400 0500 022000	437	58.00	10	48	20
0700 02800 0100 020000	445	32.00	-	32	20
0700 02800 0100 087000	506	6.00	4	2	2
0700 02800 0100 099000	517	50.00	27	23	20
0900 00100 0200 030000	543	0.58	0.58	-	0
1000 13300 0100 030000	550	3.00	-	3	3
	Total =	**3,127.08**	**292.58**	**2,834.50**	**620**

Prepared: 09/03/08

Non-Permitted Oyster Grants
2007/2008

Count: 37

Total Area: 3,127 Ac
Area Outside 1,000 ft Shoreline Buffer: 2,834 Ac



Prepared: 09/03/08