



STATE OF CONNECTICUT

DEPARTMENT OF AGRICULTURE

Bureau of Aquaculture and Laboratory



Sue Jacobson
Department of Environmental Protection
Office of Long Island Sound

September 28, 2003

Dear Sue:

Relative to Island East the Iroquois Pipeline project demonstrates that marine construction techniques (clamshell dredging and plowing) permanently damage and alter the characteristics (soil strength, plasticity, and cohesion) of Long Island Sound's bottom, which negatively impacts commercial shellfishing. These effects are permanent even with the successful implementation of an approved backfill remediation plan. The result of the construction activity is the permanent loss of the disturbed corridor for commercial oyster dredging and a significantly different commercial clam-dredging environment. Commercial clam dredging requires a combination of water pressure, boat velocity, and fairly consistent bottom throughout the tow.

The Department of Agriculture-Bureau of Aquaculture conducted a dredge survey on September 29, 2003 within and outside the dredged corridor of the Iroquois Project on Tallmadge beds 21M, 28M, and 686. The October 1991 post-construction sonar surveys recorded an inconsistent post-construction bottom with drastic elevation changes, which combined with the altered soil bearing resistance and consistency affects both oyster and clam dredging. The Iroquois Gas pipeline dredged the bottom, side cast the spoils, and back-filled the trench with the same material and some additional sand. The resulting soft layer of muddy material cannot support shell substrate necessary for oyster cultivation or the use of commercial oyster dredges as a result of the elevation deviations. It has been demonstrated that an oyster dredge will slice the mounds and scoop the soft sediment resulting in a dredge filled with mud. The hydraulic clam dredge also collects mud along with clams and shell as compared to tows conducted on an undisturbed bottom adjacent to the construction zone.

Achieving a pre-construction profile with either a substitute material (as proposed by Islander East) or the disrupted bottom material will have the same result. There is no evidence that a substitute material or a new form of an original material will restore the existing "hard bottom" formed by glacier activities and thousands of years of nature's activities.

Sincerely,


David H. Carey
Bureau Director

Affidavit for effects of underwater excavation on shellfish beds.

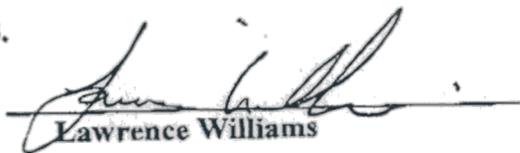
I, Lawrence Williams, Owner of Jessie D. Shellfish, Inc., hereby certify:

I have over 30 years experience shellfishing. I am a shellfish lease-holder. I am familiar with and have participated in most aspects of shellfish cultivation. I was witness to the installation of the Iroquis gas line off Milford during 1991.

I had subcontracted my services to Tallmudge Bros., Inc. during this time, and have cultivated and harvested shellfish prior to the installation. After the installation, no harvesting or cultivation could take place along the construction corridor or the anchor scars.

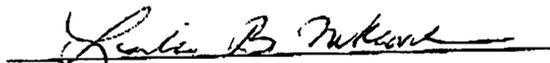
I witnessed dead clams and oysters in this area. The shellfish dredges are not able to operate efficiently along the construction scar. I was never able to harvest or cultivate in this area as direct result of the installation of this pipeline. It is my belief that permanent damage has been done to these public trustlands.

Signed this the 1st day of October 2003.

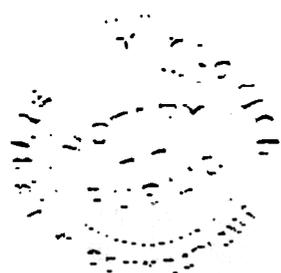

Lawrence Williams

State of Connecticut
Ss Norwalk
County of Fairfield

Subscribed and sworn this 1st day of October, 2003 before me, notary public in and for the County and State aforesaid by Lawrence Williams, who is known to me, and who duly acknowledged to me the execution of the foregoing instrument.


Leslie B. Miklovich
Notary Public

LESLIE B. MIKLOVICH
NOTARY PUBLIC
MY COMMISSION EXPIRES ON



Affidavit for condition of Iroquis pipeline area for shellfish.

I, David Hopp, Captain for Tallmadge Bros., Inc., harvesting oysters and clams on Long Island Sound for 41 years, being duly sworn, depose and say that:

I David Hopp do hereby certify:

The shellfish area that was restored by Iroquis pipeline has not yet conformed with the surrounding grounds.

The once hard bottom is now filled with silt and mud. The bottom is too soft to support oysters which need to pump freely from silt to live and grow.

The oyster dredge, a tool to gather oysters, bogs down and fills with silt and mud.

Although there are a few clams in the area, it cannot sustain enough clams because of the silt to commercially work it. On either side of the pipeline, life goes on, commercial clam farming goes on as it has for over 100 years.

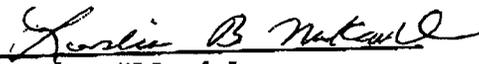
Signed this the 30th day of September 2003.



David Hopp

**State of Connecticut
ss Norwalk
County of Fairfield,**

Subscribed and sworn to this 30th day of September, 2003 before me, notary public in and for the County and State aforesaid by David Hopp, who is known to me, and who duly acknowledged to me the execution of the foregoing instrument.



**Leslie B. Miklovich
Notary Public**



**LESLIE B. MIKLOVICH
NOTARY PUBLIC
MY COMMISSION EXPIRES OCT 31, 2003**

These comments concern the Marine-Construction portion of the proposed project regarding the impacts to shellfish and the shellfish ground-leasing program. The state administers 55,000 acres and the towns 6,000 acres.

The construction window outside of May-October is insufficient to protect shellfish against unusually hard winter weather or stresses related to other environmental factors prior to the construction. The 16th Shell-fish Commissioner's Report of the State of Connecticut General Assembly, January Session 1882 on page 65 states: "The extreme cold of the winter months tends to check their feeding, and they grow thin and poor: so that by spring many of them are so weakened that the muddy water caused by the spring freshets and gales easily destroys them." Construction sedimentation must equal that of a common storm event. The cumulative impact of unknown weather events along with the construction project could be detrimental to shellfish. The industry is recovering from the 1997 MSX oyster disease and has survived on hard clam harvests. This project and the unknowns could jeopardize that survival.

The cumulative impact of all utility projects must be addressed.

The Norwalk electric cables have removed approximately 700 acres from shellfish production. The Iroquois Line construction corridor affected 866 acres of which some are extremely or severely affected and others with specific limited impacts. Cross-Sound Project utilized the navigational channel up to the breakwater. The cable was then laid through undesignated areas to lower the impact. However the Bureau records indicate that the 100-acre corridor was cultivated in the 1880's and might have been utilized in the future had the bottom not been permanently disturbed in the cable laying process.

The Islander East proposal will impact town ground with sedimentation from the HDD exit pit, disturb areas currently under cultivation, historically cultivated, or potentially needed in the future as depuration areas. The 1880 shellfish commission report included a map of leased shellfish beds in the exact location of the pipeline route. The area sustained shellfish in the past under the right conditions and can in the future unless the bottom is disturbed. The construction corridor will remove approximate 100 acres from commercial production. The construction anchoring and sedimentation will impact a large number of acres leased for shellfish beds.

Plasticity or the pliability and capacity to be molded.

Cohesion or the tendency of soil particles to stick together primarily from the attraction of clay particles for water molecules held between them.

In an undisturbed state the hard bottom exhibits the ability to resist the penetration of an object. The bottom sustains shellfish and the use of the commercial dredge for 150 years.

Marine Construction:

The method of construction such as dredging, plowing, or jetting or a combination thereof creates a major disturbance to the soil structure. When water is mixed with this undisturbed soil at the bottom on Long Island Sound the characteristics are permanently altered. The percent of soil moisture, particle size distribution, plasticity and cohesion are changed, therefore the hard bottom no longer has its original undisrupted and undisturbed characteristics.

Attempts to mitigate construction disruption of the bottom have been unsuccessful.

Worst case is the layer of semi-fluid softened butter sediment that smothers the habitat. Less impacted areas are left without a smooth bottom that existed prior to construction. Drag beam or termi-tube used

to place bank run gravel will create an uncompacted bottom of different soil strength and bearing capacity.

Commercial shellfish dredges on a mitigated smooth bottom will penetrate further in an uncompacted soil that lacks the traditional hard bottom strength and bearing resistance therefore removing the 2" cobbles (bank gravel) creating an impression along or across the construction zone recreating the trench.

Marine Construction has shown to alter the bottom in a negative fashion for at least thirty years (Norwalk Cable trenches) without returning to a form that would support commercial shellfishing activities. No project to date has had success or experience in attempted mitigation.