

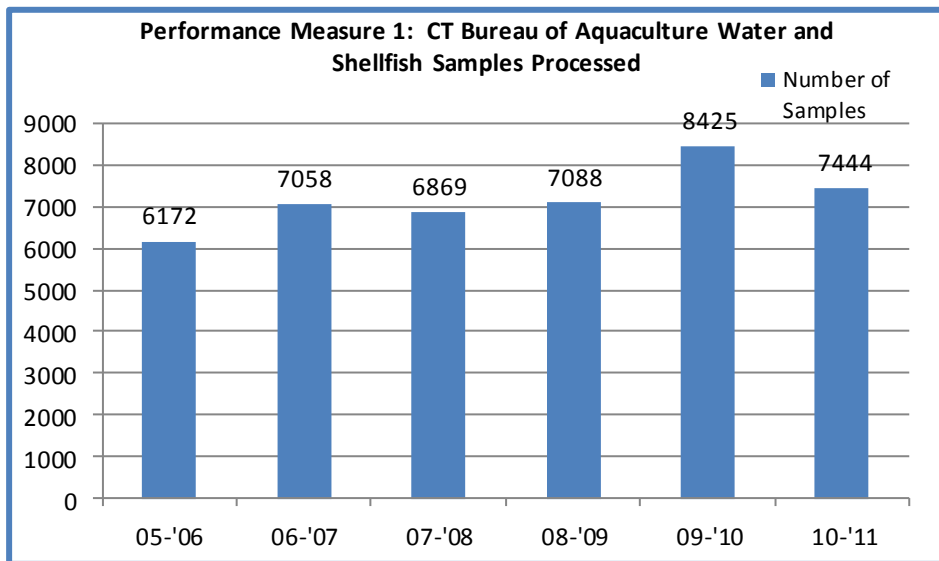
**2012 Program Report Card: CT Shellfish Sanitation Program:
Water Quality for Shellfish Harvest (CT Department of Agriculture Bureau of Aquaculture)**

Quality of Life Result: All CT residents have access to safe, local, high-quality seafood harvested from a “Clean and Healthy” Long Island Sound

Contribution to the Result: The CT Shellfish Sanitation Program identifies safe shellfish growing areas (through pollution source assessment and water quality and shellfish monitoring) which provide CT residents and commercial shellfish harvesters with a source of fresh and wholesome clams and oysters.

Program Expenditures	State Funding	Federal Funding	Other Funding	Total Funding
Actual FY 11	\$120,000	\$8000 (Grant)		
Estimated FY 12	\$125,000			

Partners: the Bureau of Aquaculture works with multiple partners in order to manage shellfish areas, identify and correct pollution sources and monitor water quality in protection of the shellfish beds and industry including: Local Shellfish Commissions, Shoreline Health Departments, Harbor Management Commissions, Marine Police, Public Works, CT Seafood Council, CT Sea Grant, CT DEP, CT Department of Public Health



How Much Did We Do?

Performance Measure 1-Water Quality Monitoring: Improve water quality and shellfish tissue monitoring to ensure a safe and wholesome shellfish product

Story behind the baseline:

Bacteriological water quality in the shellfish beds must be monitored and regulated carefully in order to ensure that the product that is harvested from these beds is safe to eat.

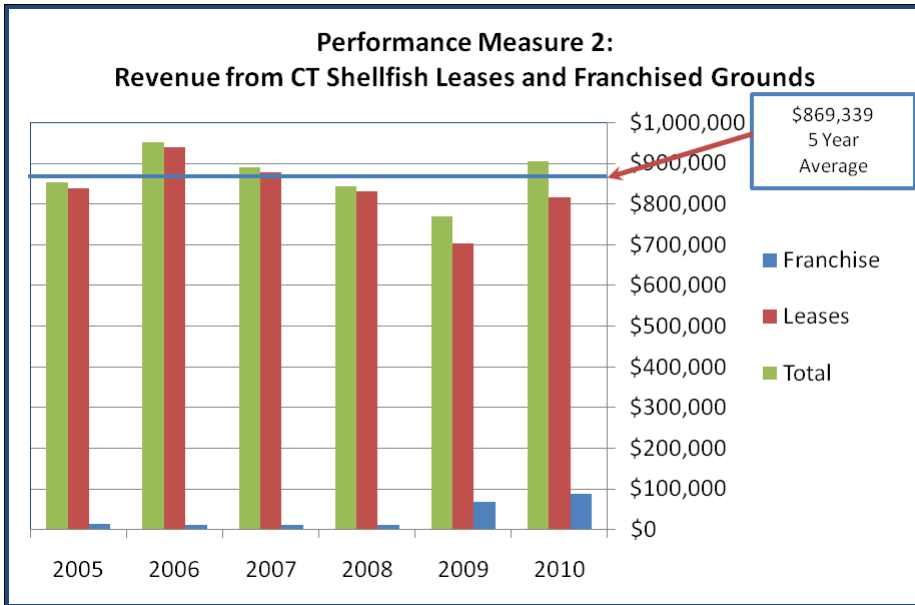
In FY10-11, the Bureau processed approximately 8000 samples, but still failed to meet the minimum number of samples required to meet FDA Guidelines. Additional testing was added during this year to monitor for virus indicator, which allows DA/BA to reopen shellfish beds after sewage bypass events.

Severe weather due to Hurricane Irena and following extended heavy rainfall events resulted in devastating impacts to water quality in growing areas, and additional sampling was required to attempt to reopen areas.

Trend: ▼ Slightly fewer number of samples were collected this year, primarily due to shortfalls in the number of samples able to be processed by the laboratory as well as many days of adverse weather conditions that prohibit safe water sampling by boat.

Proposed actions to turn the curve:

1. Fill vacant positions: In the face of ever-increasing federal regulations, the CT Shellfish Sanitation Program must continue to meet the requirements of the National Shellfish Sanitation Program (NSSP), which is regulated by the FDA. We anticipate that our most recent FDA evaluation will conclude that we are not meeting the minimum requirements of the Program, it will be unlikely that we can continue to do so unless vacant laboratory positions are filled.
2. Perform administrative closures of areas lacking significant shellfish resource or activity. We have been doing this for several years now.
3. Change classification of growing areas that due to poor water quality, require extensive monitoring. This action may significantly impact recreational programs and commercial harvest.
4. CT Shellfish Sanitation Program is always responding to emerging pathogens, and must evaluate all potential public health threats. The Bureau has begun sampling for Vibrio, marine bacteria that can cause illness or death, and anticipates an increased need for expanded Vibrio, Hazardous Algal Bloom, and Virus indicator sampling in the upcoming fiscal years.



Performance Measure 2-Economic Benefits: Increase the amount of revenue brought into the state from the CT Shellfish Industry directly through Lease and Franchise fees paid for the use of shellfish grounds

Trend: ◀▶ Flat Trend

Story behind the baseline:

The CT Shellfish Industry pays Lease and Franchise fees for shellfish beds on an annual basis which generate an average of \$870,000 per year.

In order to maintain revenue from Shellfish Leases, water quality must be monitored and regulated carefully in order to ensure that the product that is harvested from these beds is safe for human consumption and meets the requirements of the National program. Without the CT Shellfish Sanitation Program to perform this monitoring, there would be no harvest allowed from shellfish beds, and no income generated for the state from leases and other shellfish-related economic benefits.

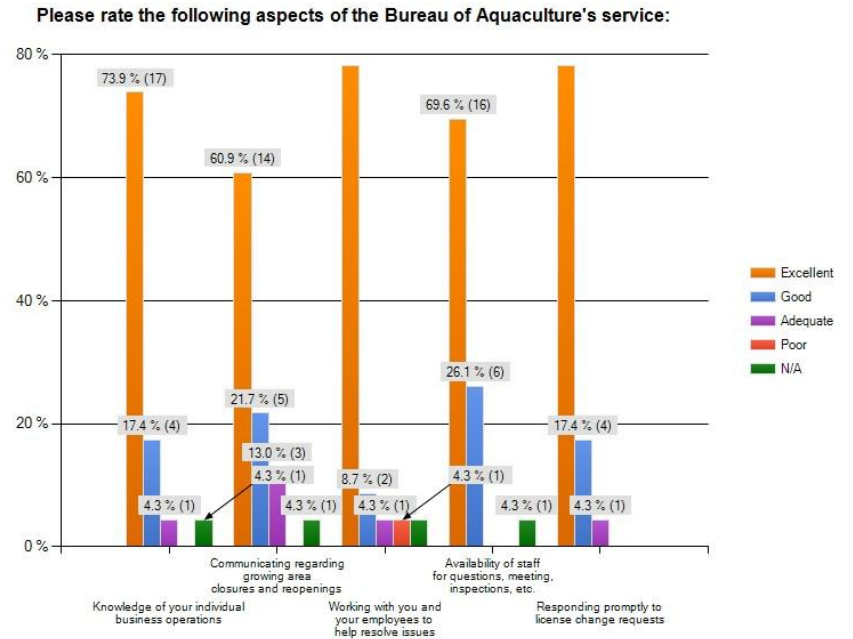
The value of the beds is directly related to the number of days the beds are open. The DA/BA responds immediately to water quality impacts to collect and analyze samples in order to reopen beds in a timely manner.

Proposed actions to turn the curve:

The CT Shellfish Sanitation Program will soon be required to increase the types of monitoring that are performed to include virus indicator studies, and a wider range of bacteriological, molecular, and chemical analyses, including Vibrio and Paralytic Shellfish Poisoning, in order to meet the requirements of the program. The Bureau is currently attempting to locate alternative sources of funding for equipment to process these samples, so that there will be no need for additional budget expenditures for equipment.

1. The DA/BA has developed an extensive Geographic Information Systems (GIS) database of shellfish grounds, water quality classifications, and sampling stations that will allow us to identify potential areas for expansion of leased grounds

2. The DA/BA is in the process of developing an alternative leasing mechanism in order to make lease opportunities available to new Aquaculture businesses. Currently all leases are subject to a sealed bid process that statutorily awards leases to highest bidder, effectively eliminating businesses with limited cash flow from obtaining leases.



How Well Did We Do It?

Performance Measure 3-Industry Satisfaction: Improve the perception of quality of service provided in support of CT's industry. Achieve a rating of "Good" or "Excellent" service in a variety of responsibilities performed in support of the CT Shellfish Industry.

Trend: ◀▶ Flat Trend

Story behind the baseline: The Bureau of Aquaculture staff administers the CT Shellfish Program by overseeing shellfish harvest in CT, monitoring water quality in the shellfish growing areas, opening and closing shellfish beds based on water quality, and licensing and inspecting 45 harvest operations and facilities and 32 wholesale facilities. The Bureau's service was rated "Good" or "Excellent" on 5 aspects of service by between 82.6% and 95.7% of shellfish harvesters.

Proposed actions to turn the curve: The CT Shellfish Sanitation Program is a multi-faceted program, which must perform a wide-variety of services in order to meet the requirements of the National Shellfish Sanitation Program, which is regulated by FDA. The CT Shellfish Sanitation Program must find ways to serve the industry in a more efficient manner as state program budgets and personnel are shrinking.

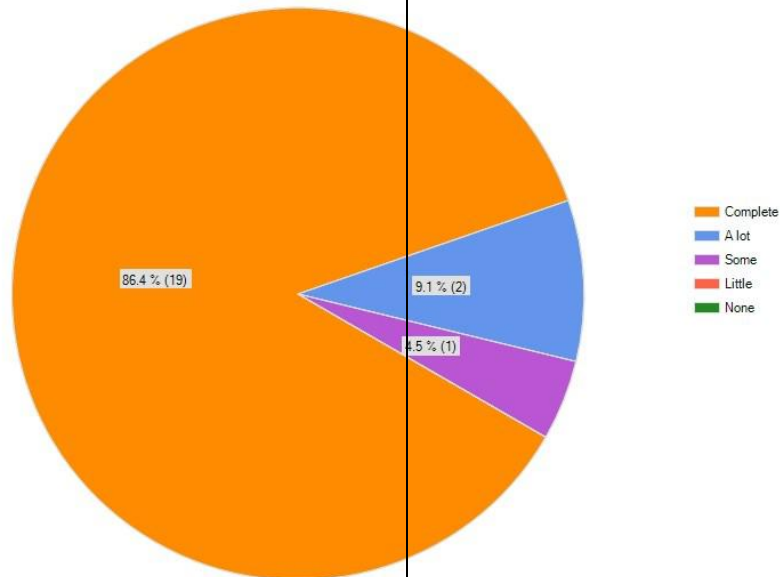
1. A project is currently underway to improve the Bureau of Aquaculture website to make it more user-friendly, improve access to application and license change forms, sanitation forms, HACCP forms, etc. in order to make it easier for

harvesters to make license changes and find information related to their operations.

2. We have implemented a phone hotline recording service so that harvesters can call in and get information regarding closures and openings. This hotline service only serves harvesters in the Western region of the state at this time. Please note: In the Eastern region, a number of municipalities share the responsibility for opening and closing areas; this may contribute to the lower ratings in the category.

Is Anyone Better Off?

What level of confidence do you have in the safety of your product due to the water quality and shellfish meat testing performed by the Bureau of Aquaculture?



Performance Measure 3-Industry Confidence: Improve communication regarding the importance of monitoring water quality and shellfish meat quality testing performed by the Bureau of Aquaculture staff as part of the Shellfish Sanitation Program. The Bureau would like to see a high percentage of shellfish harvesters who have “Complete” or “A lot” of confidence in the safety of their product due to DA/BA monitoring.

Trend: ◀▶ Flat Trend

Story behind the baseline: The Bureau staff monitor water quality in the shellfish growing areas, open and close shellfish beds based on water quality, and license and inspect CT’s 46 shellfish harvest operations and facilities and 32 wholesale shellfish dealers. The pie chart below shows that 95.5% (orange and blue segments together) of shellfish harvesters have either “Complete” or “A Lot” of confidence in the safety of their shellfish product due to the water quality and shellfish meat testing performed by Bureau of Aquaculture’s Shellfish Sanitation Program.

Proposed actions to turn the curve: A 95.5% Confidence rating is very high, particularly considering that the actions the Bureau must take to open and close

areas based on the water quality directly and immediately impact their harvest operations. This high rating shows that the industry understands and appreciates that the Bureau must take action to close areas to ensure the safety of the shellfish product in order to protect public health.

1. The Bureau is in the process of updating the Aquaculture website to include more information regarding the environmental factors that go into the decision-making process. The website will include updated maps of shellfishing area classifications and maps showing sampling station locations and pollution source locations, so that harvesters are fully aware of how we identify areas that are not meeting the water quality requirements. These are actions that the bureau has taken at no additional cost to improve communications with the harvesters.
2. The best way to maintain this high level of confidence is by transparent communications and education regarding pollution sources, water quality requirements, and water quality results, so that the harvesters have a better understanding of what the criteria are and if

Data Development Agenda:

In the future, we will use our FDA NSSP Annual Growing Area Review as one of the performance measures. This will be better show if we are meeting the requirements of the federal program, and how this compares to how much work we are actually doing. For example, during FY 10-11 and 11-12 we collected and processed more samples than we had in any previous year, but are still failing to meet critical areas of the NSSP.