Department of Agriculture

At a Glance

STEVEN K. REVICZKY, *Commissioner*
***Established* - 1925**
***Statutory authority* - CGS Sec. 22-1**
***Central office* - 165 Capitol Avenue, Hartford, Connecticut 06106**
***Average number of full-time employees* – 64**
***Recurring operating expenses* – $6,157,462**
***Capital purchases* - $0**

***Organizational structure* – Office of the Commissioner, Bureau of Agricultural Development and Resource Conservation, Bureau of Aquaculture, Bureau of Regulation and Inspection, with Business Office and Human Resource Support from the Department of Administrative Services and legal services provided by the Office of the Attorney General.**

Mission

The mission of the Department of Agriculture is to foster a healthy economic, environmental and social climate for agriculture by developing, promoting and regulating agricultural businesses; protecting agricultural and aquacultural resources; enforcing laws pertaining to public health, animal health and animal care; and promoting an understanding among the state's citizens of the diversity of Connecticut's agriculture, its cultural heritage and its contribution to the state's economy.

Statutory Authority

Statutory authority for the Department of Agriculture are found in Sections 12, 22, 26 and other sections of the Connecticut General Statutes.

Public Service

During FY 2015-2016 the Connecticut Department of Agriculture continued to inform the public; media representatives; and local, state, and federal government officials about various aspects of Connecticut agriculture through its Connecticut Weekly Agricultural Report, news releases, small group or one-on-one meetings, interviews, and radio and television appearances featuring Commissioner Reviczky and other key agency staff. Additionally, the Department continued to expand its social media presence by utilizing Facebook and Pinterest. That outreach has easily more than doubled the number of fans of the agency who follow our regular updates.

The Department, through the Bureau of Regulation and Inspection, continued the process of updating its traditional licensing system to the e-license system. Approximately 80% of the agency's licenses, permits and product registrations are now accessible for review in the e-license system. The e-license system provides a web based interface available to the public in which the status of licenses can be determined and lists of licenses and permits can be downloaded facilitating access to information that would otherwise only be available to the public by submitting a more time consuming request pursuant to the Freedom of Information Act.

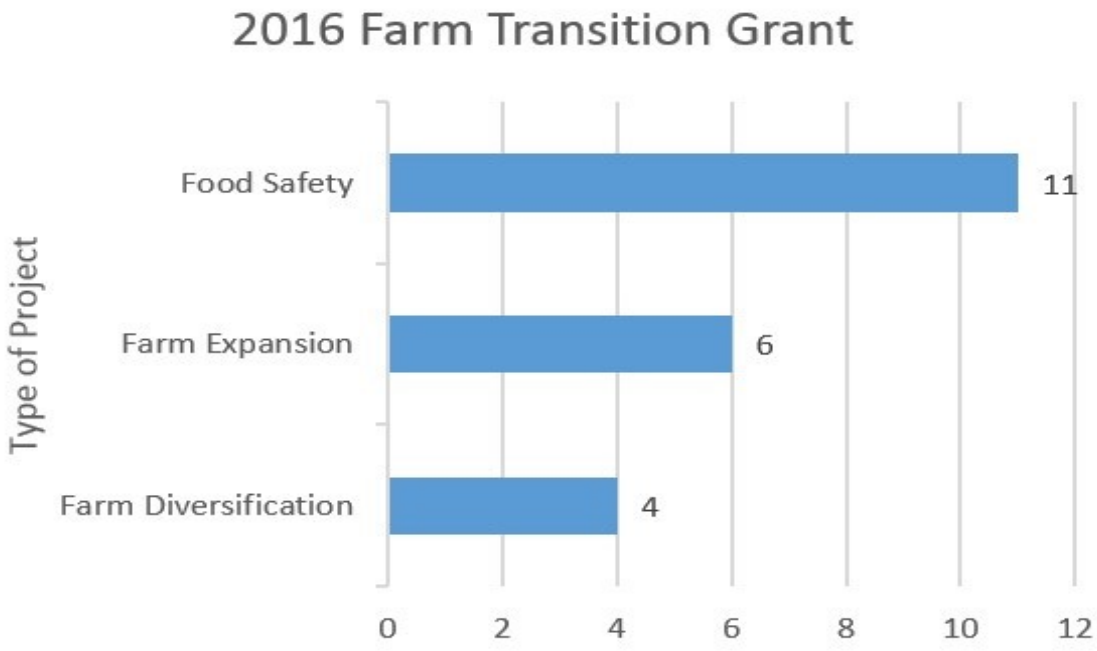
BUREAU OF AGRICULTURAL DEVELOPMENT AND RESOURCE CONSERVATION

BUREAU OF AGRICULTURAL DEVELOPMENT AND RESOURCE CONSERVATION

Agricultural Development

- Explored public-private partnerships for implementation of a master plan to redevelop and revolutionize the state's 33-acre Regional Market in Hartford, known as the largest perishable food distribution hub between Boston and New York City.
- Generated $641,000 in revenue through lease/rental of building space at the Regional Market to 14 local businesses (including distributors and processors of agricultural products and a restaurant using Connecticut Grown ingredients), one national corporation, and a federal agency.
- Generated $129,000 in revenue through three land leases at the Regional Market.
- Generated $31,000 in revenue through railroad usage fees at the Regional Market.

- Operated the long-running, early-morning farmers' market at the Regional Market featuring 49 Connecticut farmers, attracting thousands of shoppers on weekends and generating $39,000 in revenue through stall rentals.
- Assisted in coordination and promotion of 138 independently operated certified Connecticut Grown farmers' markets featuring 545 farmers and vendors.
- Administered Connecticut's Farmers' Market Nutrition Programs (FMNPs) to provide $539,948 in vouchers for Connecticut Grown fruits and vegetables at authorized farmers' markets to 48,574 nutritionally at-risk women, infants, and children and 31,166 low-income seniors.
- Successfully applied for and received $391,378 from the United States Department of Agriculture's Specialty Crop Block Grant program to fund eight projects to solely enhance the competiveness of Connecticut specialty crops.
- Funded $638,305.80 in matching Farm Transition Grants to 21 Connecticut farms for projects with a cost of $1,970,460 using Community Investment Account funds. For the past several years, the Department has given preference to Farm Transition Grant applicants who seek to use the funding to implement the federal Food Safety Modernization Act.



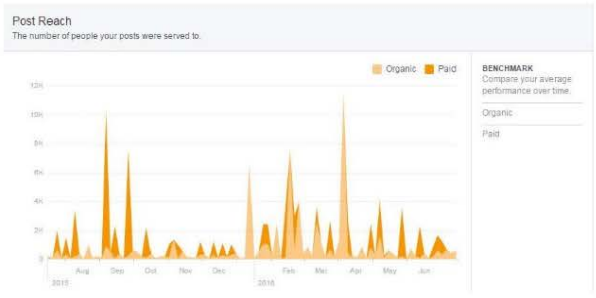
- Funded $237,559 in matching Farm Viability Grants to nine municipalities and seven non-profits for projects with a total cost of $404,023 using Community Investment Account funds.
- Partnered with Food Export Northeast to increase Connecticut exports to international markets.
- Provided 217 certificates of free sale to eligible food companies in need of this required documentation to expedite export shipments.
- Rejuvenated the state's Farm-to-Chef program to connect Connecticut farms with foodservice professionals and markets.

- Organized and coordinated 2015 Farm-to-Chef Week, featuring 60 dining venues offering menus made with Connecticut Grown ingredients.
- Strengthened the Department of Agriculture's collaboration with the state Department of Education and its involvement in Connecticut's Farm-to-School program.
- Enhanced the agency's other wholesale market development programs, including those targeting grocers and other retailers, as well as healthcare and other institutions.
- Operated an online marketplace for Connecticut Grown merchandise and apparel, selling $6,093 in merchandise, helping to strengthen the Connecticut Grown brand.
- Operated three agriculture booths in the Connecticut Building during the 2015 Big E in collaboration with the Department of Economic and Community Development.
- Hosted 2016 Agriculture Day at the Capitol, featuring 37 exhibits showcasing Connecticut agriculture and farm products, in collaboration with the Connecticut Agricultural Education Foundation.
- Enhanced the agency's website to provide producers, agribusiness, and the general public with agency and agricultural information, increasing voluntary farm business listings on the consumer information pages by six percent.
- Distributed an additional 15,000 copies of the popular Connecticut Farm Map.
- Provided staffing/administrative support to the Connecticut Farm Wine Development Council to deliver $45,000 in programming for industry members and consumers.
- Strengthened the agency's social media program to expand public awareness of Connecticut Grown products and agriculture through six Facebook pages with a total of 10,000 fans, and two Pinterest pages with 22 boards, 573 pins, and 479 followers.

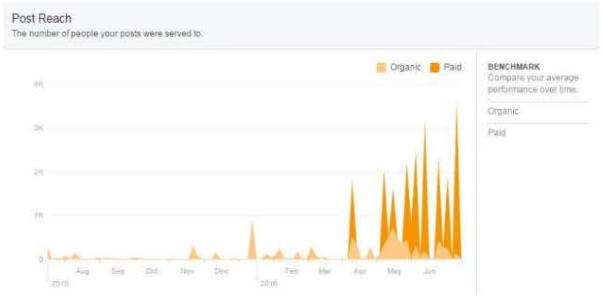
Facebook Reach, FY 15-16

Passport to CT Farm Wineries

Connecticut Department of Agriculture



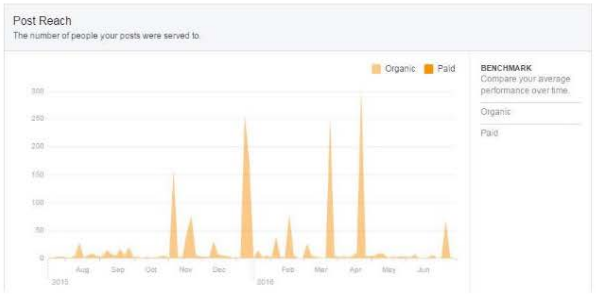
Hartford Regional Market



Connecticut Farm-to-Chef

Connecticut Grown Store

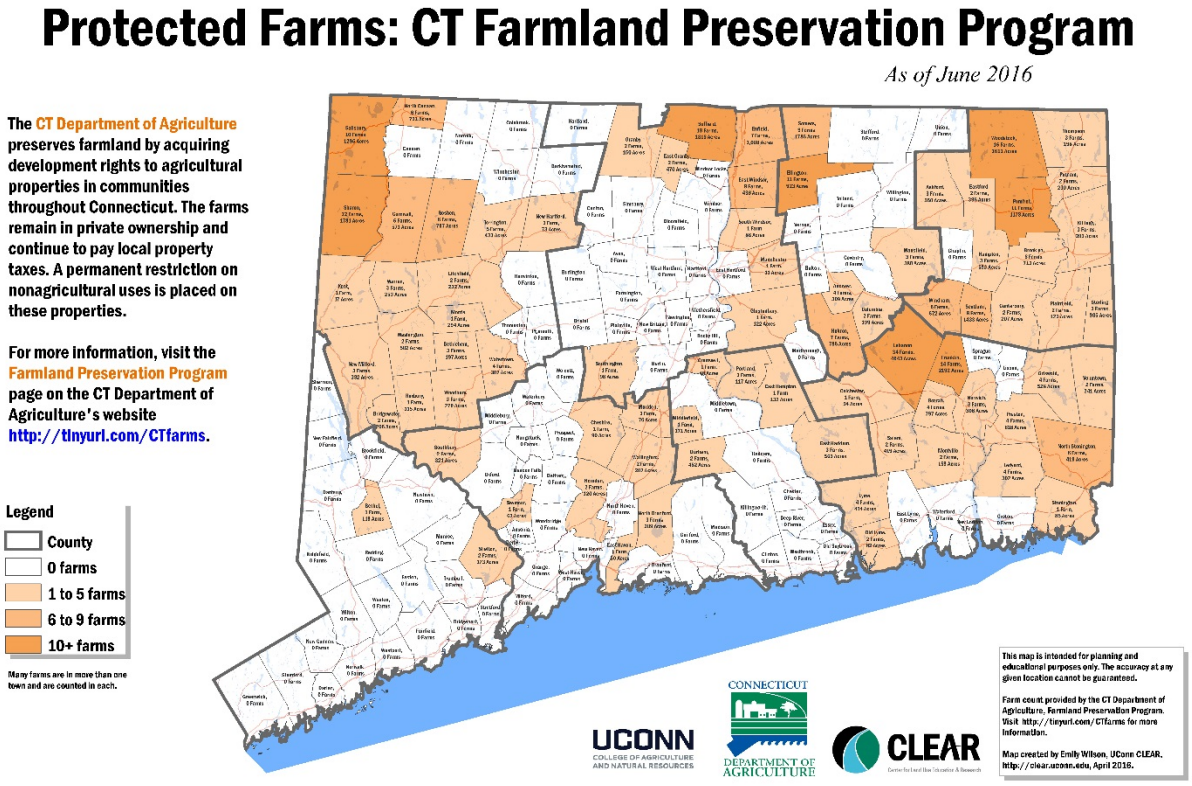
Connecticut Farmland Preservation



- Developed and implemented the following Connecticut Grown advertising campaigns:
    1. Connecticut Farm-to-Chef Week: $4,545, including $90 on social media (resulting in paid impressions of 25,520) and the remainder on radio advertising with WNPR and Total Traffic and Weather Network during peak drive times (reaching more than 104,000 listeners on the Total Traffic and Weather Network alone).
    2. The Regional Market's Farmers' Market: $16,310 on radio advertising with iHeartRadio, CBS Radio (WTIC-AM and digital) and Bomba (in Spanish); $5,776 on dry-erase signage for vendors to promote their specialty crops; and $245 on boosted Facebook posts (resulting in a total reach of 50,211).
    3. Connecticut Specialty Crops: $33,120 in federal funds on a variety of media including radio (Pandora, iHeartRadio, Bomba) and social media.

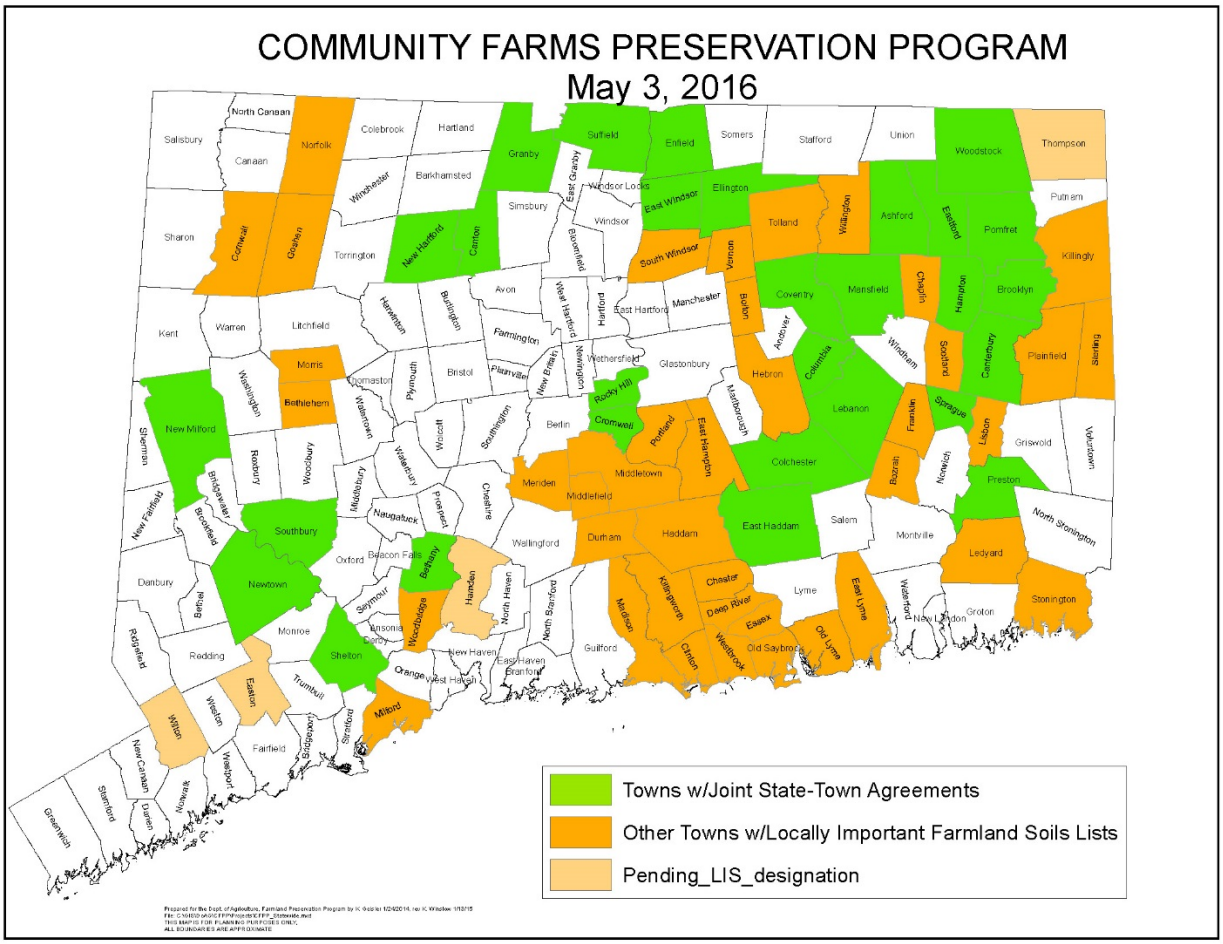
Resource Conservation

- Acquired development rights on 21 farms totaling 1,631 acres at a total cost of $9,695,090 (leveraging $2,665,330 in federal and $657,939 in municipal funding), the highest number of farms preserved in a fiscal year during the program's history, bringing the total to 329 farms and 41,278 acres.
- Entered into 20 new purchase-of-development rights offer agreements to preserve 2,204 acres, encumbering $13,323,167.
- Advanced 52 purchase-of-development-rights projects, totaling approximately 5,228 acres at an estimated $32,912,367 in preservation costs.
- Worked with eight municipalities and five land trusts on a total of 38 ongoing, cooperative farmland preservation projects.
- Submitted application for the federal FY2016 USDA NRCS Agricultural Lands Easement program and received pre-approval of $4,581,000 in federal funds towards the permanent preservation of 11 farms and approximately 1,120 acres.



- Closed on three Community Farms Preservation Program projects comprising 120 acres and a total cost of $598,038, permanently protecting that land for agricultural use in partnership with their respective municipalities.
- Entered into new agreements with four municipalities (Enfield, Newtown, Preston, and South Windsor) providing a pathway to partner on the permanent preservation of farms in

these towns through the Community Farms Preservation Program, bringing the total number of partnering municipalities in the state to 30.



- Provided $531,768 in funding through Governor Malloy's Farmland Restoration Grant to 34 projects with $3,010,021 in total project costs, bringing more than 260 acres of prime farmland soils back into active agricultural production.
- Executed a Memorandum of Agreement with the Department of Developmental Services related to the care, custody, and control of the 920-acre Southbury Training School Farm, in conjunction with the agricultural master plan.
- Drafted an agricultural conservation easement for the Southbury Training School Farm to be conveyed to the Southbury Land Trust to permanently protect the farmland for agricultural use.
- Prepared 10-year agricultural permits for six farmers to use farmland at Southbury Training School Farm.
- Administered five-year agricultural leases for two dairy farmers on the Savin Farm, Lebanon Agricultural Preserve.
- Facilitated construction of the new dam on Savin Lake, Lebanon, in collaboration with the Department of Energy and Environmental Protection.

- Assisted other state agencies, including the Department of Correction and the Military Department, with the administration of five, five-year agricultural use permits on state-owned farmland.

Enhanced and operated an improved Connecticut FarmLink website, which averages 400 visits per week and 3,200 page views per month, helping connect farmland owners and seekers.

BUREAU OF AQUACULTURE 2016

The Department's Bureau of Aquaculture (DA/BA) is the designated State Shellfish Authority for the State of Connecticut, which participates in the National Shellfish Sanitation Program (NSSP) as a shellfish producing State. The NSSP is the federal/state cooperative program recognized by the U. S. Food and Drug Administration (FDA) and the Interstate Shellfish Sanitation Conference (ISSC) for the sanitary control of shellfish produced and sold for human consumption. The purpose of the NSSP is to promote and improve the sanitation of shellfish (oysters, clams, mussels and scallops) moving in interstate commerce through federal/state cooperation and uniformity of State shellfish programs. Environmental Analysts working in the Shellfish Program participate in all aspects of the national program, including the Shellfish Growing Area and Shellfish Plant Standardization Programs.

The ISSC was formed in 1982 to foster and promote shellfish sanitation through the cooperation of state and federal control agencies, the shellfish industry, and the academic community. The ISSC adopts uniform procedures that are incorporated into an Interstate Shellfish Sanitation Program, and implemented by all shellfish control agencies; gives state shellfish programs current and comprehensive sanitation guidelines to regulate the harvesting, processing, and shipping of shellfish; provides a forum for shellfish control agencies, the shellfish industry, and academic community to resolve major issues concerning shellfish sanitation; informs all interested parties of recent developments in shellfish sanitation and other major issues of concern through the use of news media, publications, regional and national meetings, internet, and by working closely with academic institutions and trade associations. Bureau Director David Carey is the Region 2 Regulatory Representative and member of the Model Ordinance Effectiveness Review committee. Bureau staff have been appointed to several important committees and workgroups involved in policy-making at the national level (Aquaculture, Communication, Recall Guidance, and Vibrio Research).

Bureau of Aquaculture Accomplishments

- The Bureau issued 165 Personal Seed Oyster Licenses and 52 Oyster Seed Boat Licenses.
- Staff performed sanitary and records inspections of the 95 shellfish harvest vessels, 41 harvest operations and 24 wholesale dealer/distributors on a biennial basis as minimally required by the NSSP, along with necessary follow-up inspections throughout the year.
- Bureau staff collected and analyzed over 7586 seawater samples for fecal coliform bacteria, examined 220 phytoplankton samples for harmful algal blooms, 18 samples for paralytic shellfish poisoning, 105 shellfish tissues for fecal coliform bacteria analysis, and 93 shellfish tissue samples tested for total *Vibrio parahaemolyticus* and total *Vibrio*

vulnificus. In addition, 24 shellfish tissue, municipal wastewater, and seawater samples were analyzed for MSC (Male-Specific Coliphage) levels, used to evaluate viral impacts.

Shellfish Growing Area Program

Following the completion of the 2014 hydrographic dye dilution study conducted from water pollution control facilities (WPCFs) in Milford and Stratford, the Bureau was able to upgrade over 10,000 acres of shellfish waters in Stratford during 2016, greatly expanding shellfish opportunities for existing and future leaseholders. These upgrades resulted in 2,729 acres of shellfish growing area being reclassified from Restricted to Conditionally Approved classification, a significant change which allows industry to directly harvest shellfish from the area rather than having to relay shellfish to depurate bacteria and viruses. Improvements in water quality identified through analysis of the data also allowed the Bureau to increase the rainfall trigger for 9,513 acres of offshore growing areas in Stratford from 1" to 3", which will allow the area to remain available for shellfish harvesting for a greater length of time.

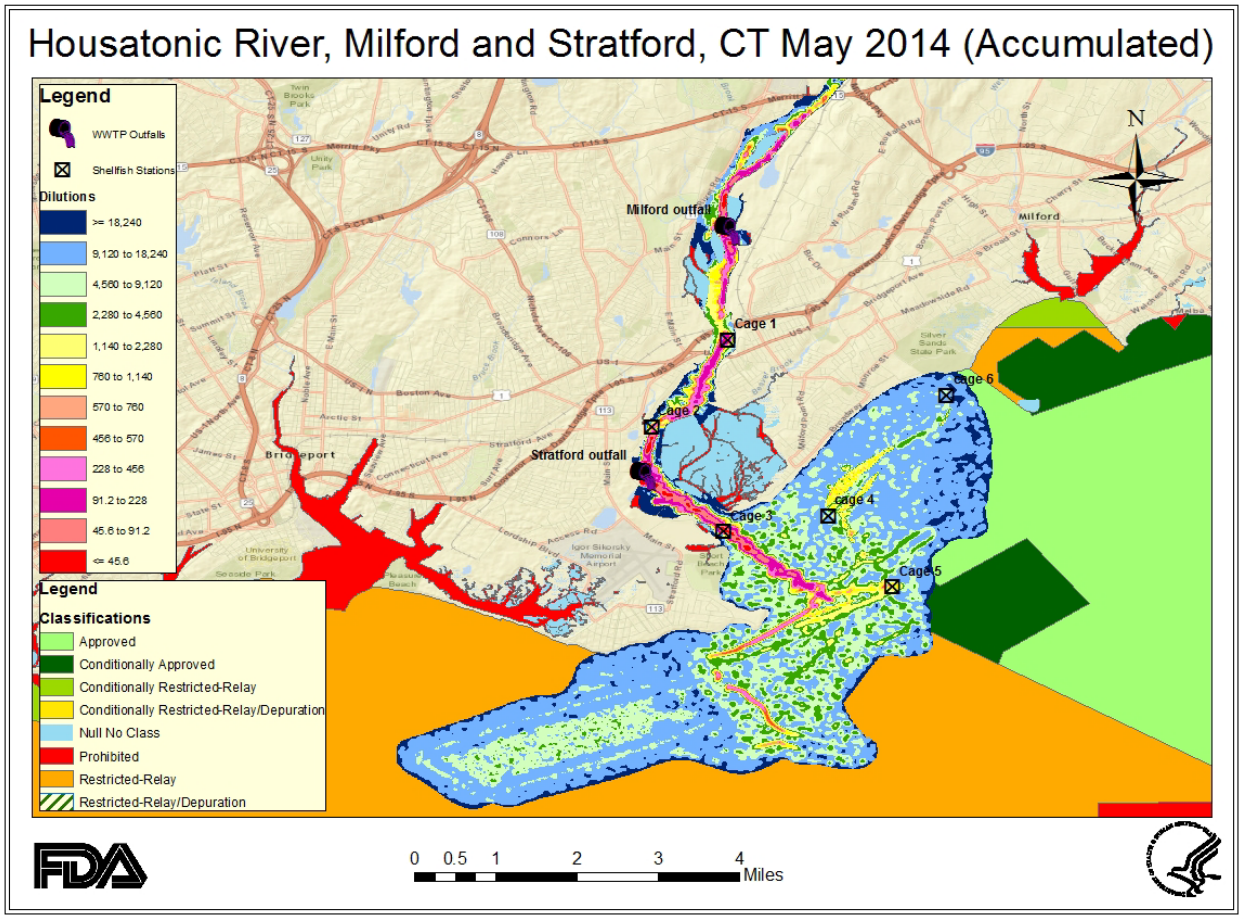


Figure 1. Milford and Stratford Hydrographic Dye Dilution Study results.

Results of the 2015 Mystic WPCF hydrographic dye dilution study were shared with the chairs of both the Groton and Stonington shellfish commissions and a representative from the Noank Aquaculture Cooperative to inform them of the potential for a new Conditionally

Approved harvest area that could provide new opportunities for both recreational and commercial harvest from the municipal waters.

The Bureau of Aquaculture is in the process of completing Twelve Year Shoreline Pollution Source Surveys in the Town of Branford and the City of Bridgeport. Data collected during the surveys is used to compile a Comprehensive Pollution Source GIS database, with the long-term goal of maintaining a comprehensive pollution source database for the entire CT shoreline. Pollution sources (such as sewage infiltration to stormwater outfalls) discovered during the surveys are investigated to determine the source of sewage and are referred back to the town for correction. Investigation of pollution sources requires a cooperative effort between the Bureau of Aquaculture, town health officials, public works departments, local environmental groups, and US Environmental Protection Agency.

The Bureau of Aquaculture continues to expand the use of testing shellfish, seawater, and municipal wastewater effluent samples to determine levels of Male-Specific Coliphage (MSC). MSC is an indicator organism that has been accepted by the NSSP for detecting levels of enteric viruses that may be present in growing areas or shellfish tissues. Coliphages are bacterial viruses that infect and replicate in Escherichia coli, and are often found in high concentrations in municipal wastewater and to a lesser degree in human and animal feces. Because traditional bacterial monitoring does not accurately indicate the presence of non-bacterial organisms such as human pathogenic viruses, coliphages are potentially important microorganisms for monitoring the microbial quality of waters and shellfish. It also provides a safe way for staff to assess impacts from pathogenic viruses, such as the Norovirus, by using the MSC as an indicator organism.

As part of these efforts, Bureau staff will partner on the project "*Shellfish aquaculture and virus pollution near wastewater treatment plants*". This project was recommended for funding in the 2016 NOAA Sea Grant Aquaculture Research Competition. Bureau staff will work with CT WTPs to gather WPCF monitoring and local environmental data, collect/deliver wastewater and shellfish samples and identify challenging performance conditions; determine classification/management strategies for impacted areas and develop an appropriate sampling plan; help write scientific publications and National Shellfish Sanitation Program Guidance documents, and participate in outreach.

Staff Accomplishments

- Department of Agriculture Bureau of Aquaculture staff participate as members on the following Interstate Shellfish Sanitation Conference (ISSC) Committees and Task Force Panels
    - Task Force II Regulatory Appointee 2015
    - Research Guidance Committee 2016-17
    - Time Temperature Technology Committee 2016-17
    - Resubmerging Committee 2016-17
    - Education Committee 2016-17
    - Laboratory Methods Review and Quality Assurance 2016-17
- Bureau of Aquaculture staff serve as the Dairy Laboratory Evaluation Officer for the State of Connecticut and are responsible for evaluating all Appendix N Facilities and

Certified Dairy Laboratories along with analysts performing milk laboratory test methods in accordance with the requirements of the Grade A Pasteurized Milk Ordinance.

- On a bi-annual basis, staff schedules and performs laboratory evaluations of both milk screening faculties and certified laboratories. There are a total of 3 Certified Laboratories and 7 Screening Facilities. In 2016, half of these facilities were evaluated.
- In addition to evaluations, staff organize proficiency testing for the labs, supervises the analysts performing the appendix N tests, certifies new analysts which includes: providing written exams they must pass in order to become a certified analyst; helping to develop and fine tune quality control/quality assurance plans for the labs and answer any questions and offer training to new facilities. There are 48 analysts that are evaluated every two years. In 2016, 14 new analysts were certified to perform the appendix N test.
- Staff visit intra-state farms to educate the farms about the necessity of antibiotic screening and organize yearly split samples for the farms to perform to ensure proper testing protocols are being performed. These proficiency splits will be done in November of 2016 for approximately 20 intra-state screening facilities.

- Bureau staff have added additional federal certifications and designations, including as State Shellfish Standardization Officer for Connecticut after passing a rigorous US FDA standardization evaluation.
- Key bureau staff was invited to present at the National Oceanic and Atmospheric Administration Ecological Forecasting Roadmap Annual Meeting held during April 2016 in College Park, MD. Her presentation provided NOAA administration and technical staff with a user perspective to assist the development process for NOAA's Strategic Vision for Ecological Forecasting. The department shared relevant experience with forecasting efforts as relates to the Connecticut Shellfish Program and Eco-Forecasting Initiatives and Opportunities, focusing on opportunities and needs for the future. The presentation was well-received and has resulted in potential collaborations and discussions with NOAA National Weather Service and United States Geological Service (USGS).
- Staff was also invited to present at the February 2016 World Aquaculture Society Aquaculture 2016 Triennial Meeting in Las Vegas, NV. We presented on Connecticut's Response to the Management of Pathogenic *Vibrio parahaemolyticus* during the Vibrio session at the meeting.

Expanding the Use of Technology for Shellfish Program Management

Bureau staff has been involved in on-going efforts to develop an expanded in-house geographic and environmental water quality database, which will allow for advanced statistical analysis and reporting associated with shellfish growing area classification and water quality reporting, funded in part by the Connecticut Shellfish Initiative.

Bureau staff has developed an online mapping application for shellfish growing area management, which will allow shellfish commissions, commercial and recreational harvesters to geolocate themselves in the field using a mobile device in order to properly locate shellfish

growing areas and get real-time information about the status of the area. The new tool should be available for the public by October 1, 2016 (Figure 2).

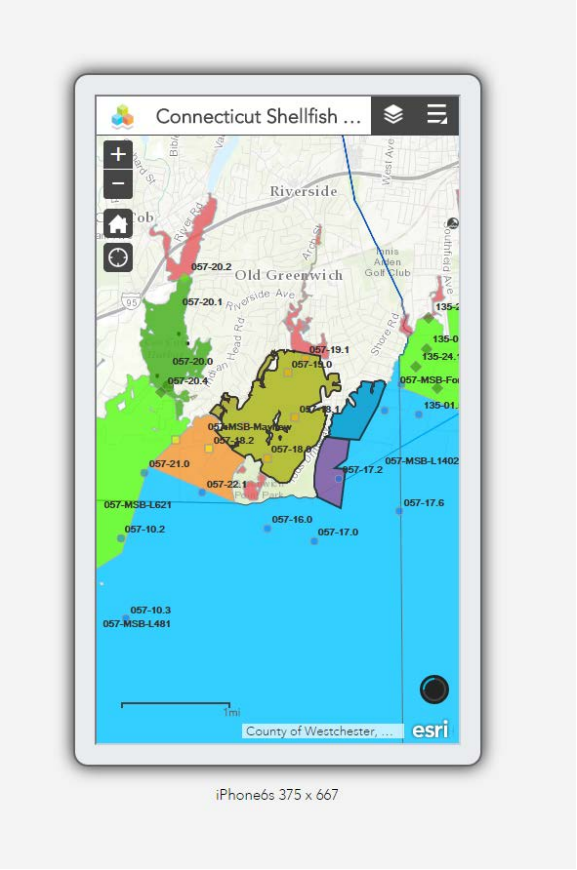


Figure 2. ArcGIS Online Mobile Application for Shellfish Growing Area Management

Connecticut's *Vibrio parahaemolyticus* Control Plan

Connecticut shellfish growing waters in Westport, Norwalk and Darien were the source of at least 23 confirmed cases of *Vibrio parahaemolyticus* during the summer of 2013, with another additional 15 cases potentially linked to Connecticut waters. This outbreak occurred with a *Vibrio parahaemolyticus* Control Plan in place which limited time from harvest to refrigeration to 5 hours. The 5 hour limit was not adequate to prevent the 2013 outbreak from occurring, and a more stringent control plan was required in the outbreak area during 2014 and 2015. Prior to 2013, only sporadic cases had been linked to Connecticut growing areas.

In 2015, the DABA was able to further refine the VPCP triggers for the outbreak area, based upon new data developed using the Long Island Sound Vp Prediction System (Whitney, Ward, & DeRosia-Banick, 2016). In 2015, Connecticut's *V. parahaemolyticus* Control Plan (VPCP) for the 2013 outbreak area was triggered when surface seawater temperatures reached 68°F (20°C) as measured using the NASA G1SST product [incorporated into the Long Island Sound hydrodynamic model] and the NOAA BRHC3 coastal buoy located in Bridgeport, CT. The use of a trigger based on environmental conditions rather than a pre-determined start date

proved to be effective during 2015, as no illnesses were confirmed prior to the June 19, 2015 start date of the rapid cooling VPCP.

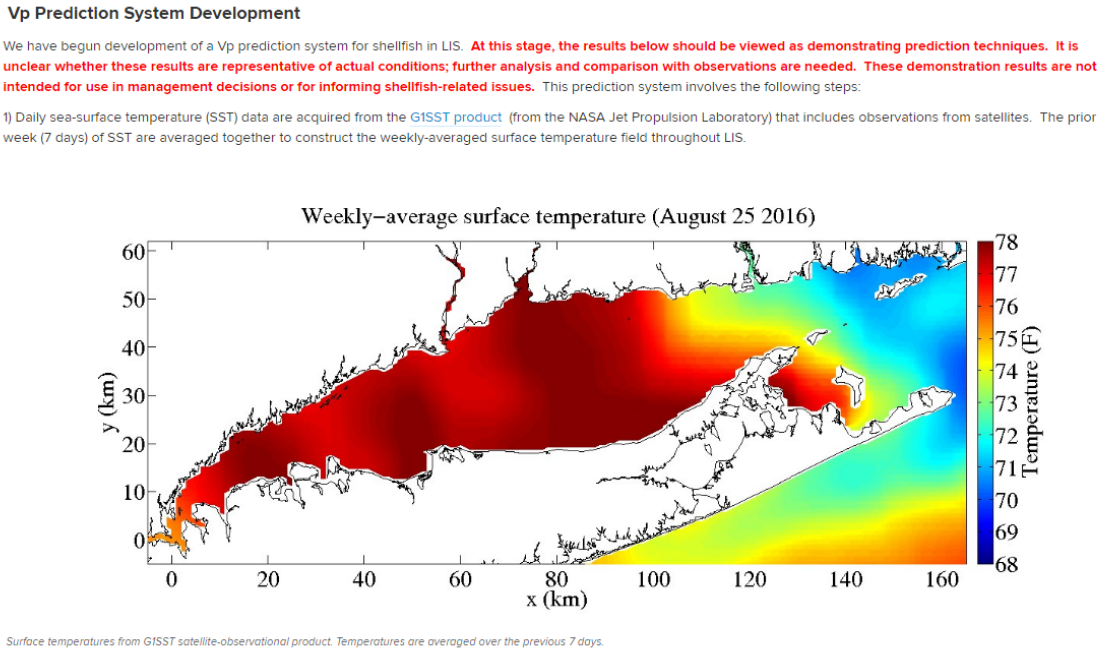


Figure 3. Long Island Sound Vp Prediction System, Whitney, Ward and DeRosia-Banick, 2016. 1) Daily sea-surface temperature (SST) data are acquired from the G1SST product (from the NASA Jet Propulsion Laboratory) that includes observations from satellites. The prior week (7 days) of SST are averaged together to construct the weekly-averaged surface temperature field throughout LIS.

Oyster production areas not implicated in the 2013 outbreak operate under a general state-wide *Vibrio parahaemolyticus* control plan, which requires a five hour limit from time of harvest to temperature control (either mechanical refrigeration or icing), shading shellfish on the deck of harvest boats, spraying shellfish with water from approved growing areas to keep them cool, monitoring of shellstock temperatures once on board, and reducing internal temperatures of shellfish to less than 50°F within 5 hours of placing under temperature control. Additionally there are recently adopted national requirements for temperature record keeping and transportation documentation requirements that must be adhered to by harvesters and dealers.

The Bureau of Aquaculture works throughout the year with aquaculture producers to ensure an understanding of the VPCP requirements, as well as educate harvesters that the warmer waters and changing weather patterns must be considered while adopting strategies to reduce the risk of shellfish-related illnesses.

Bureau analysts have spent many hours on-board harvest vessels during 2016 evaluating rapid cooling processes and making recommendations to improve existing controls. The ultimate goal is to reduce the risk of illness associated with Connecticut shellfish, in order to

ensure that our shellfish industry continues to produce a high quality and safe source of shellfish for Connecticut residents and out-of-state consumers.

The effectiveness of Connecticut's *Vibrio parahaemolyticus* Control Program is characterized by calculating the percent reduction in illnesses from the 2013 outbreak year (Table 1). The number of illnesses associated with shellfish growing areas within the municipalities of Westport, Norwalk and Darien was reduced from 23 during 2013 to one (1) case in 2014 and one (1) in 2015, achieving an illness reduction of 95.6% in each of those years as compared to the 2013 season. Clinical isolates associated with confirmed cases linked to Connecticut growing areas in 2014 and 2015 provide evidence that the O4:K12 virulent strain is still present in Connecticut growing areas. Based on the results of the post-harvest controls study and on recent illness data, experts in the field believe that these findings provide convincing evidence that the use of ice slurry for rapid cooling has prevented additional outbreak events in 2014 and 2015.

Table 1. Confirmed V. parahaemolyticus cases linked to Connecticut shellfish, 2010 through 2015.

Year	Confirmed Vp Cases Linked to CT Growing Area	Multi-State Shellfish Cases Including CT Source
2010	1	2
2011	1	2
2012	1	3
2013	23 (23 outbreak area)	11
2014	1 (Westport)	2
2015	2 (1 Westport, 1 Milford)	8

DABA staff has taken a leadership role in collaborative efforts with FDA and NOAA to develop tools to better forecast risk of *Vibrio parahaemolyticus* illness, and is part of a steering committee tasked with guiding the development of forecasting tools and bringing together academic, regulatory and industry stakeholders to develop regional models, as part of the North East Region Vibrio Forecasting Partnership. Several new forecasting tools have been developed and were released for the 2016 Vibrio season in order to assist shellfish harvesters with identifying the best post-harvest controls and harvest strategies to reduce the risk of Vibrio growth in their product (Figures 4 and 5).

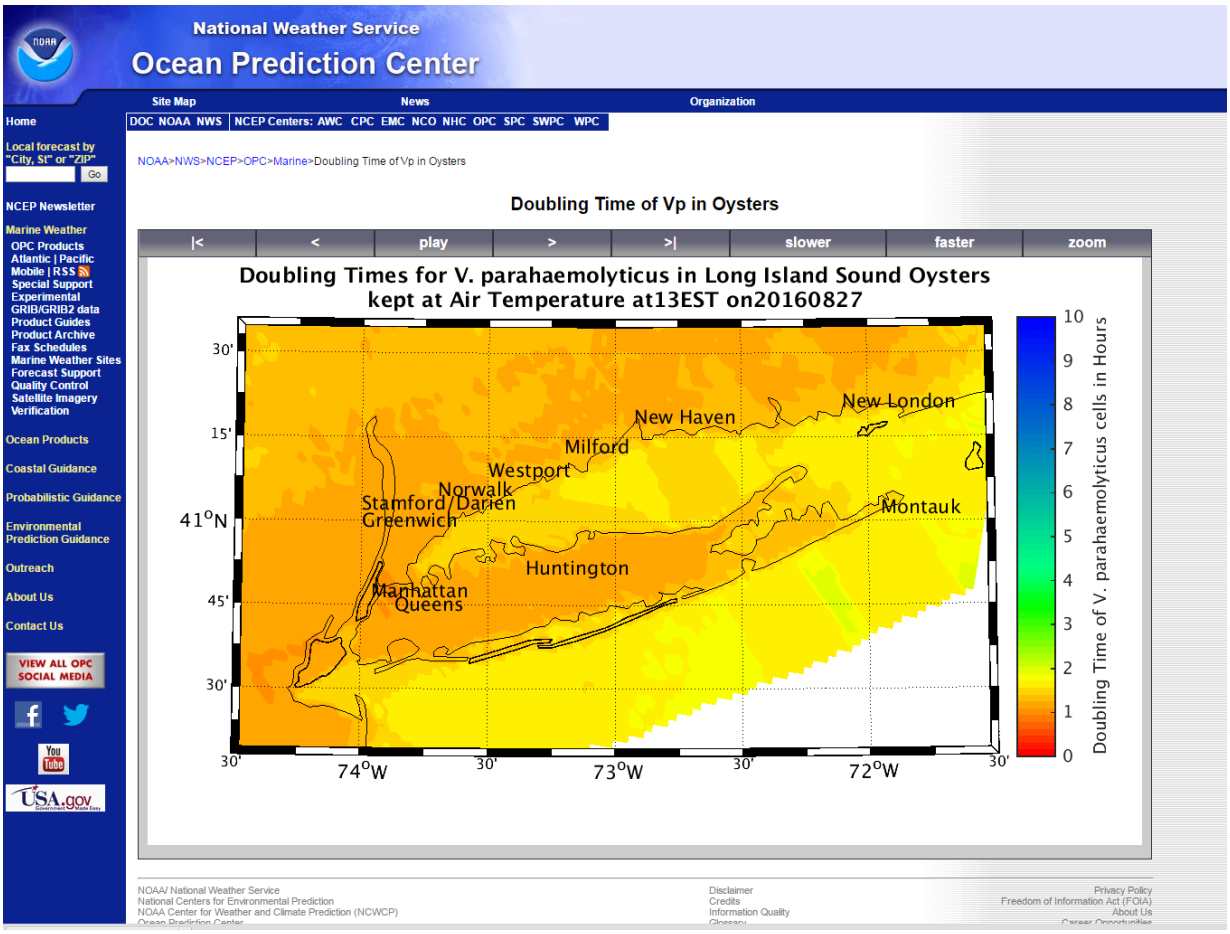


Figure 4. NOAA National Weather Service Long Island Sound Vibrio parahaemolyticus bacteria doubling time forecast.

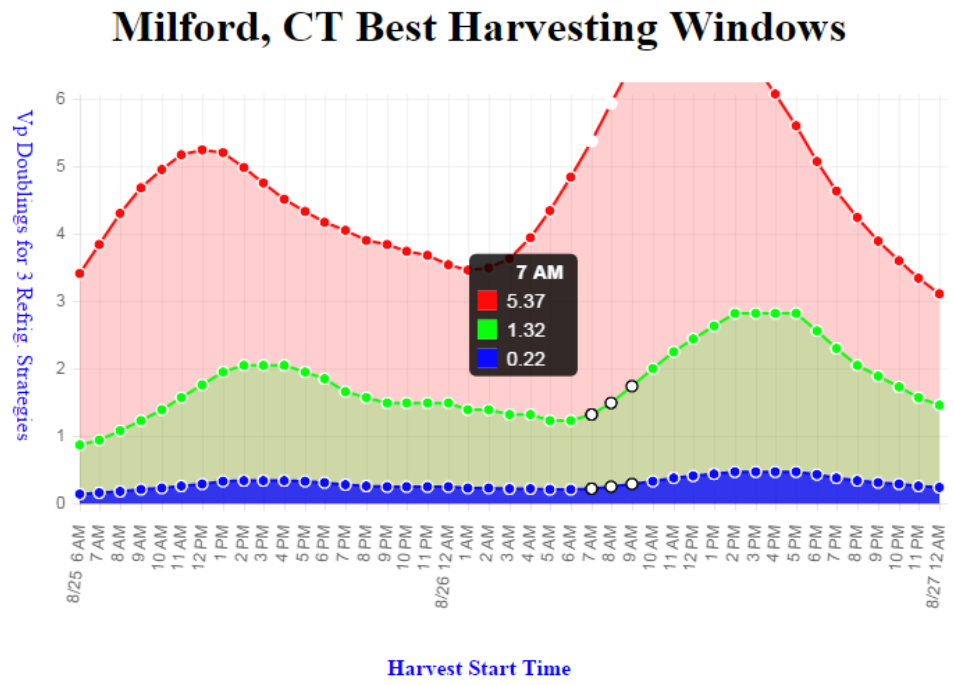


Figure 5. NOAA NWS DABA Tool for 3 post-harvest cooling strategies. Graph illustrates predicted bacteria doublings for Vibrio parahaemolyticus bacteria in harvested oysters under 3 cooling strategies. These predictions are based on the established relationship between temperature and bacterial growth, using NWS NDFD air temperature forecasts for selected harvest start times. Levels of Vp bacteria in the oysters begin to increase rapidly once oysters are removed from the water at the time of harvest. More rapid cooling results in lower Vp levels in the oysters, and reduces the risk of illness associated with oyster consumption. This tool is intended to assist oyster producers in choosing an appropriate cooling method and optimal start time of harvest, in order to achieve the lowest number of bacterial doublings when using a given cooling strategy.

Post-Harvest Cooling Strategies:

1) Blue line (Rapid cooling): Oysters placed into Ice Slurry on vessel within 0.5 hours of harvest start time; oysters are cooled to an internal temperature of 50°F within 1 hour of harvest.
2) Green line (Immediate On-board refrigeration): Oysters are placed into mechanical refrigeration unit on vessel within 0.5 hours of harvest time; oysters are cooled to 50°F within 5 hours of being placed under refrigeration.
3) Red Line (5 hours to refrigeration): Oysters are exposed to air temperature on the deck of the vessel for 5 hours and placed into mechanical refrigeration on shore; oysters are cooled to 50°F within 5 hours of being placed under refrigeration.

Bureau Analyst Kristin DeRosia-Banick, helped organize the 2015 Advancing Tools for Modeling, Forecasting, and Managing for Vibrio in the North East Region, held in November 2015 at University of Connecticut's (UCONN) Avery Point campus. The purpose of this workshop is to assess the requirements and needs of stakeholders (public health officials, shellfish growers, managers, IOOS community) based on shellfish operations and harvest

management practices, and the current state of the science for Vibrio forecast and risk assessment in North East Region. Outcomes of this meeting are helping to shape National Oceanic and Atmospheric Administration (NOAA) effort in the development of forecasting tools that are tailored to the unique needs of North East Region. The meeting was well attended by stakeholders and research partners from NOAA, UCONN, FDA, MARACOOS, Sea Grant, and Regional Shellfish Control Authorities from ME, NH, MA, RI, CT and NY.

Figure 6. 2015 Advancing Tools for Modeling, Forecasting, and Managing for Vibrio in the North East Region, held in November 2015 at University of Connecticut's (UCONN) Avery Point campus.

BUREAU OF REGULATION AND INSPECTION (FY 2016 Administrative Report)

The Bureau worked collaboratively with the Connecticut Department of Public Health and the U.S. Centers for Disease Control and Prevention in the investigation of an outbreak of *E. coli* 0157. The outbreak, involving 50 confirmed human cases with the median age 5 years old, was the largest ever caused by *E. coli* O157 to be reported in the state. Its cause was traced to a farm in eastern Connecticut at which visitors had direct contact with goats shedding the bacteria and the farm environment. Of the 50 confirmed human cases, 3 of the 11 hospitalized were children who developed Hemolytic Uremic Syndrome (HUS) characterized by impaired kidney

function and requiring dialysis. In addition to its role in the investigation, the Bureau also issued a Quarantine Order to prevent movement of the animals off of the farm.

The Bureau's Agricultural Commodities and Food Safety Unit secured funding through a cooperative agreement with the FDA to implement Animal Feed Regulatory Program Standards. The feed standards establish a uniform foundation for the design and management of State programs responsible for the regulation of animal feed. Through implementing the feed standards, a State program will be better able to achieve and maintain programmatic improvements that help ensure the safety and integrity of the animal feed supply including pet foods. Part of the funding will be used by the Connecticut Agricultural Experiment Station to improve the laboratory's analytical capability relative to feeds.

The Bureau issued $4,051,448.44 in Dairy Sustainability Grants to 105 dairy farms pursuant to the provisions of Public Act No. 09-229.

Complaint investigations conducted were as follows (excluding those conducted by the State Animal Control Unit): 20 consumer complaints (CT Grown advertising, product defects or illness that involved fruits/vegetables, milk, milk products, pet food or livestock feeds); 16 animal welfare complaints; 13 agricultural nuisance/agricultural practices complaints.

Dairy Unit

- Collected and analyzed 1632 samples of processed/manufactured milk, milk products and cheese, 204 samples of raw milk for pasteurization and 184 samples of retail raw milk for compliance with milk safety regulations including the presence of animal drug residues and in the case of retail raw milk, human pathogens.

- Conducted 221 Grade A Dairy Farm inspections, 68 Retail Raw Milk Farm inspections, 91 Milk Plant/ Cheese Plant inspections, 44 milk tanker inspections, 1 HACCP listing audit, 3 plant listing audits and 3 farm bulk tank unit (BTU) audits.

- Orders/Warnings issued: 1 stop sale order to a milk processor for product quality violations; 8 stop sale orders to retail raw milk producers due to product quality violations; 5 stop sale orders to producers of milk for pasteurization due to product quality violations ; 23 warnings for milk quality violations.

Office of the State Veterinarian and Animal Health Unit

- Distributed nine thousand one hundred (9,100) doses of Brucella abortus vaccine to veterinarians for use to prevent Brucellosis in cattle (Undulant fever in humans).

- Surveillance tested six thousand three hundred (6,300) head of livestock for Mycobacterium bovis (bovine tuberculosis); distributed 5,750 doses of purified protein derivative (PPD) tuberculin to veterinarians for private testing of livestock for

Mycobacterium bovis (bovine tuberculosis).

- Surveillance tested 4,315 poultry from 148 flocks for Avian Influenza and other avian diseases.

- Surveillance tested 448 swine from 34 farms for Pseudorabies and Brucellosis.

- Orders and Warnings issued: 4 Quarantine Orders due to the detection of canine parvovirus detected in dogs at municipal pounds and pet shops; 2 Quarantine Orders due to livestock importation violations; and 1 Quarantine Order to prevent the movement of goats off of a farm to which a human outbreak of *E coli* O157 was traced.

- Pursuant to the provisions of C.G.S. §22-126a, Testing of Animals in Drawing Contests, obtained samples from 14 animals entered in draft pulling contests held at Connecticut fairs that were submitted to the University of Florida Racing Laboratory for analysis for the presence of drugs. The presence of performance enhancing drugs was not detected in any of the animals selected for testing during the 2015 fair season.

- With USDA cooperative agreement funding support, the Bureau continued animal disease surveillance and outreach activities for Avian Influenza, Scrapie and other reportable animal diseases; continued implementation of the National Animal Disease Traceability Program; and partially funded two positions associated with the cooperative agreement programs. The Bureau provided funding to the Connecticut Veterinary Medical Diagnostic Laboratory (CVMDL) at the University of Connecticut to conduct essential diagnostic services and to support personnel needed to accomplish surveillance goals and to assist in animal disease investigations and disease-free status certifications i.e. National Poultry Improvement Plan (NPIP). State animal health surveillance information is coordinated by the State Veterinarian and shared with USDA through quarterly accomplishment reports and participation in the National Animal Health Reporting System (NAHRS) and the National Animal Health Laboratory Network (NAHLN).

- Animal Disease Traceability/Livestock and Poultry Interstate Movement
    - Investigated 15 instances of illegal livestock importation.
    - Livestock and Equine Interstate Movement – processed 2,939 Interstate Certificates of Veterinary Inspection (Health Certificates) representing 10,611 livestock and equine animals.
    - Issued 244 livestock import permits representing 1,413 animals.
    - Issued 104 livestock exhibition permits representing 1,253 animals.
    - Issued 1,601 poultry import permits representing 3,640,632 domestic poultry, game birds and Psittacine birds (sold in pet shops).
    - Official Animal Identification Devices issued (pursuant to USDA Animal Disease Traceability Rule): 1,796 RFID (radio frequency identification device) ear tags issued to producers; 5,200 NUES (metal) ear tags issued to producers and veterinarians; and 8,600 back tags issued to CT licensed livestock dealers.

- Issued 2,582 Scrapie program ear tags to goat and sheep producers (pursuant to RCSA §§22-278-A1 through 22-278-A14 and USDA Srapie rule).

Agricultural Commodities and Food Safety Unit

- Samples submitted to the Connecticut Agricultural Experiment Station for analysis: 335 seed samples; 150 animal feed samples; 68 fertilizer samples
- Conducted 12 Shell Egg (table eggs) Safety Program inspections; 4 Poultry Slaughter Program Inspections; and 91 Controlled Atmosphere Apple Storage inspections resulting in the certification 108,000 bushels of apples meeting controlled atmosphere storage standards.
- Reviewed all product applications for registration for approval prior to registrations being issued by licensing unit. (See Licensing Unit Report below for numbers of registered products.
- Good Agricultural Practices (**GAP**) and Good Handling Practices (**GHP**) Fresh Produce Audit Program:

  Through USDA Specialty Crop Block Grant funding and in conjunction with a Federal-State cooperative agreement with the USDA-Agriculture Marketing Service (AMS) Specialty Crops Inspection Division, a Bureau staff member, is licensed as a USDA auditor and under the direction of the Bureau, provides USDA food safety audits that include Good Agricultural Practices (GAP)/Good Handling Practices (GHP) Audits, Produce GAP Harmonized Audits, and commodity specific audits. These are voluntary food safety audits that verify adherence to the recommendations made in the Food and Drug Administration's (FDA) Guide to Minimize Microbial Food Safety Hazards for Fresh Fruits and Vegetables. Requesting farms/businesses that meet the minimum requirements receive a certificate from the USDA and are listed on the USDA-AMS website. This program will continue to assist Connecticut farmers, re-packers, and wholesalers in remaining competitive nationwide and worldwide as the demand for food safety programs continues to grow.

- Twenty-two audits were conducted on Connecticut farms/businesses to determine if minimum audit requirements outlined by USDA-AMS were met.

State Animal Control Unit

During the past fiscal year, a search and seizure warrant was served after an animal cruelty investigation that resulted in the seizure of 32 horses, 2 dogs, several rabbits and more than 80 chickens. The horses were placed at the Department's large animal rehabilitation facility operated in partnership with the Department of Corrections at the York Correctional Institution in Niantic CT. The horses, the majority of which were emaciated and affected with other medical conditions, were rehabilitated and then sold to new owners through an on-line public auction, recapturing more than $140,000 to partially offset the expenses incurred by the taxpayers.

- The State Animal Control Unit investigated 1,609 complaints, 3 livestock damage

claims, issued 87 written warnings, 14 infractions, 64 misdemeanors summons and had 10 arrests. It conducted inspections of 64 municipal dog pounds, 168 pet shops, 404 pet grooming facilities, 219 commercial kennels, 108 dog training facilities, and processed 138 rabies cases where humans or domestic animals were exposed to a rabid animal.

- This past fiscal year, with the cooperation of the New Britain Police Department, the Bureau developed and implemented a 96 hour animal control officer's academy. Since 2012 all animal control officers who were recently appointed must complete a minimum of 80 hours of instruction following a curriculum standard as set forth in CGS 22-358(d). Through this academy the curriculum is specific to Connecticut laws and regulations. Instructors include Department of Agriculture staff, State's Attorneys, Police Officers and Veterinarians. This past fiscal year 34 trainees have successfully completed the animal control officer's academy.

Licensing Unit

- Revenues collected from licensing and product registrations totaled $2,157,436.31

- The Licensing Unit processed applications and issued licenses and registrations during FY 2016 as follows: 204 Animal Importers, 269 Commercial Kennels, 140 Training Facilities, 430 Grooming Facilities, 103 Pet Shops, 249 Animal Control Officers, 6 Egg Processing Plants, 2 Fur Breeders, 1 Commission Sales Stable, 1 Equine Auction, 93 Poultry Dealers, 46 Livestock Dealers/Brokers, 3 Swine Garbage Feeders, 121 Milk Dealers, 120 Milk Sub dealers, 2 Poultry Slaughter Facilities, 3,033 Retail Dairy Stores, 118 Milk Producers, 15 Retail Raw Milk Producers, 5 Raw Milk/Cheese Manufacturers, 176 Milk Examiners (lab techs and bulk haulers), 10 Milk Laboratories, 88 Bulk Milk Pickup Tankers, 23 Cheese Manufacturers, 11 Cervidae Herds, 87 Seed labelers, 602 Feed companies (12,965 registered products), 335 Fertilizer companies (4,260 registered products), 23 Liming Material companies (115 registered products), and 163 Soil Amendment Companies (537 registered products). 11 Poultry Disposal Facilities.

Animal Population Control Program

- The Animal Population Control Program Issued 7,600 vouchers (3,394 dogs and 4,206 cats) for the vaccination and sterilization of dogs and cats from municipal impound facilities, feral cat organizations and pets owned by CT low-income residents. Benefits were provided for 5,567 animals, 2,340 of which were dogs (69%) and 3,227 of which were cats (77%) with a 73% overall voucher redemption rate. In addition, 11,134 pre-surgical vaccinations were issued of which approximately 50% were rabies vaccinations.

- $50,000.00 was expended from the Animal Population Control Account for municipal animal care costs as mandated by Public Act No. 15-205.