

# Department of Agriculture



**Bryan P. Hurlburt**, *Commissioner*

**Established:** 1925

**Statutory Authority:** CGS. Sec. 22.1

**Central Office:** 450 Columbus Boulevard, Hartford, CT 06103

**Number of Employees:** 52

**Recurring operating expenses:** \$6,895,252

**Organizational Structure:** Office of the Commissioner, Bureau of Agricultural Development and Resource Conservation, Bureau of Aquaculture, Bureau of Regulatory Services, 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 is found in Sections 12, 22, 26 and other sections of the Connecticut General Statutes.

## Public Service

The department provides public benefits in many different capacities. Through the agency's Regulatory Services Bureau; inspectors ensure domestic animals' health and wellbeing, produce and dairy products we ingest are safe, and local agricultural businesses are trained properly on food safety requirements. The agency's Agricultural Development and Resource Conservation Bureau provides business development and assistance for agribusinesses, delivers programs like Farmers' Markets Nutrition, Farm to School, and Farm to Chef which have a positive community impact, brings awareness of Connecticut agriculture products to residents, and protects our natural farmlands.

The Connecticut Department of Agriculture continues 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, social media, small group or one-on-one meetings, and radio and television appearances.

## **BUREAU OF REGULATORY SERVICES**

The Bureau of Regulatory Services is responsible for enforcing state laws and regulations and certain federal laws in fulfilling the Department's mission relative to protecting public health and safety; ensuring the safety of both plant and animal derived food products; ensuring the general health and welfare of all domestic animals including livestock and poultry; and managing emergency preparedness and response activities for animal disease outbreaks and natural disasters.

The Bureau is organized in to five functional units: (1) Food Safety and Agricultural Commodities; (2) Dairy/Milk Safety; (3) Office of the State Veterinarian and Animal Health; (4) State Animal Control and (5) Licensing. Although each unit has separate and distinct responsibilities, certain situations and conditions necessitate collaboration and cooperation between staff of the various units. To that end, and in the interest of maximizing available resources, the Bureau continues to expand its efforts in cross training staff to ensure that field staff are qualified to fulfill more than one job discipline.

The Bureau continues to secure non-state funding for program support. The Bureau has multi-year cooperative agreements with the United States Food and Drug Administration (FDA) to implement state programs to enforce (1) the Produce Safety Rule of the Food Safety and Modernization Act (FSMA) and (2) the FDA's American Feed Program Regulatory Standards (AFRPS). The Bureau continued its yearly cooperative agreements with the USDA's Animal Plant and Health Inspection Service, Veterinary Services (APHIS, VS) fund activities (1) relative to reportable poultry and livestock disease surveillance and (2) animal disease traceability.

The Bureau is responsible for administering Dairy Sustainability Grants pursuant to the provisions of Public Act No. 09-229. The Bureau issued \$4,692,412 in Dairy Sustainability Grants to 86 eligible dairy farms.

Investigations conducted as a result of complaints received included: consumer product complaints involving CT Grown advertising, product defects or illness that involved fruits/vegetables, milk, milk products, pet food or livestock feeds; animal welfare complaints (excluding those conducted by the State Animal Control Unit); and agricultural nuisance/agricultural practices complaints.

### **Connecticut Hemp Research Pilot Program**

One of the biggest successes for the agency during 2019 was the passage of Public Act No. 19-3, An Act Concerning A Pilot Program for Hemp Production, which was signed by Governor Ned Lamont and took effect on May 19, 2019. The Public Act authorized the growing of hemp in Connecticut and the manufacturing of products derived from hemp. The department immediately began receiving inquiries and developed and implemented a program to license and regulate the growing and processing of hemp.

#### Current Status (August 31, 2019)

- 81 active hemp growers
- 294 acres registered to grow hemp
- 2 active hemp processors

### **Dairy Unit**

- Collected and analyzed 1,325 samples of processed/manufactured milk, milk products and cheese, 216 samples of raw milk for pasteurization and 180 samples of retail raw milk for compliance with milk safety regulations and the presence of animal drug residues. The retail raw milk samples are also tested for the presence of human pathogens. Staff collected 168 water samples for testing from dairy production and processing facilities and 33 milk samples for vitamin analysis.

- Conducted 218 routine Grade A Dairy Farm inspections, 54 Retail Raw Milk Farm inspections, 110 routine Milk/ Cheese Plant inspections, 48 Pasteurizer Equipment tests, 29 Bulk Milk Tanker inspections, evaluated 20 milk plant samplers, evaluated 35 milk hauler samplers, conducted 185 Special inspections of dairy producers and manufacturers, 6 Milk Plant listing audits, 7 Farm bulk tank unit (BTU) audits and 2 Single Service manufacturer audits.
- Orders/Warnings issued: 1 stop sale orders to milk processors for product quality violations; 7 stop sale orders for retail raw milk producers for product quality violations; 2 stop sale violations to producers of milk for pasteurization due to product quality violations; 1 stop sale violations to producer of milk for pasteurization due to presents of antibiotics violation. We issued 12 warning letters for milk quality violations.
- Dairy Unit Staff organized 1 milk hauler sampler training meeting. Dairy staff attended 3 training courses, 2 dairy inspectors attended the PMO Appendix T training course required by the new FSMA federal regulations.

### **Office of the State Veterinarian and Animal Health Unit**

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).

Also, with USDA Veterinary Services cooperative agreement funding support, the Bureau continued its activities with Animal Disease Traceability, Official Animal Identification requirements and monitoring and enforcing compliance with state and federal laws relative to livestock and poultry interstate movement:

- Companion and Small Animal Interstate Movement – processed 7,998 Interstate Certificates of Veterinary Inspection.
- Livestock and Equine Interstate Movement- processed 1,984 Interstate Certificates of Veterinary livestock and Equine animals moving into and out of this state. Representing 12,065 total animals.
- Issued 260 livestock import permits representing 3,011 animals imported into Connecticut.
- Issued 90 livestock exhibition permits representing 589 animals.
- Issued 1,794 poultry import permits representing 4,022,090 domestic poultry, upland gamebirds and pet birds imported into this state.
- Official Animal Identification devices issued (pursuant to USDA Animal Disease Traceability Rule): 3692 RFID (radio frequency identification devices), 4,100 NUES (metal) ear tags issued directly to CT licensed livestock producers and licensed, accredited, category II veterinarians; and 19,997 back tags issued to CT licensed livestock dealers.
- Issued 5,305 Scrapie program ear tags to goat and sheep producers (pursuant to RCSA §§22-278-A1 through 22-278-A14 and the USDA Scrapie Eradication rule).
- Received 579 Brucellosis test charts performed on cattle, goats and swine, 1463 Brucellosis vaccination certificates for cattle, 1485 Tuberculosis Tests of cattle and goats, and 44 Porcine Pseudorabies Test charts.

- Equine Infectious Anemia (Coggins) Test- processed 1883 equines.

### **Testing for the Presence of Drugs**

#### **Draft Pulling Contests at Fairs**

The Bureau of Regulatory Services, pursuant to the provisions C.G.S. §22-126a, conducted random tests for the presence of performance enhancing drugs on animals entered in drawing (pulling) contests at Connecticut fairs. Staff from the Bureau obtained samples from 5 mini horses; 5 draft ponies; and 14 draft horses for submission to the University of Florida Racing Laboratory for testing. Of the animals sampled, only one animal tested positive for the presence of a drug. Firocoxib (Equioxx®), an anti-inflammatory drug, was detected in one draft horse from Massachusetts entered in a pulling contest at the Woodstock Fair in Woodstock, Connecticut on September 7, 2018. As a result, the Department banned both the owner and trainer of the animal, and the animal itself, from entering drawing contests held in this state for a period of one year.

C.G.S. §22-126a also provides the Department with the authority to prohibit the owner or both the owner and the trainer of any animal that tests positive for the presence of drugs in another state from entering any animal in a drawing contest for a period not less than one year or more than two years at the Commissioners discretion. The presence of the drug Flunixin (Banamine®), also an anti-inflammatory drug, was detected in two Connecticut oxen entered in drawing contests held at the Fryeburg Fair in Fryeburg, Maine. As a result, the Department banned both the owner and trainer of one of the animals and the owner of the other animal, all Connecticut residents, from entering drawing contests held in this state for a period of one year.

### **Food Safety & Agricultural Commodities Unit**

#### Produce Safety Rule of the Food Safety Modernization Act (FSMA)

The Bureau successfully completed year three of the multi-year cooperative agreement with the U.S. Food and Drug Administration (FDA) to implement a state produce safety program in compliance with the Produce Safety rule component of the federal Food Safety Modernization Act (FSMA). Bureau staff continues to collaborate with national, regional, and local partners to best serve the produce industry and its stakeholders in Connecticut.

The department introduced the Connecticut Good Agricultural Practices (CGAP) program for produce growers needing certification of their food safety practices for their wholesale customers.

#### Sample collection for analysis by the Connecticut Agricultural Experiment Station

- 335 - seed samples
- 88 - animal feed samples
- 68 - fertilizer samples

#### Products Registered

- 14,180 Commercial animal feeds, including pet foods
- 4,778 Fertilizers
- 767 Soil Amendments
- 115 Agricultural Liming Materials

#### Shell Egg Inspection Program

(table egg producers with less than 3000 birds)

- 2 Registered producers
- 12 Inspections

Poultry (slaughter) Processor Inspection Program (meat bird producers with less than 3000 birds)

- 2 Registered producers
- 4 Inspections

Controlled Atmosphere Facility Storage (apples)

- 3 registered facilities
- 80 inspections
- 4 certifications

FDA Contract Inspections

- 19- BSE Inspections (for materials at risk of transmitting Bovine Spongiform Encephalopathy)
- 4 Veterinary Feed Directive Inspections (Medicated Feed)

#### Animal Feed Regulatory Program Standards (AFRPS)

The Agricultural Commodities Division continues to make progress towards full implementation of the 11 Animal Feed Regulatory Program Standards (AFRPS), and will achieve full implementation in 2020.

The AFRPS focus is on a regulatory foundation that includes: standardized training, standardized inspection program, auditing, animal feed related illnesses or death and emergency response, enforcement program, outreach activities, planning and resources, assessment and improvement, laboratory services and a product/ingredient sampling program.

#### **State Animal Control Unit**

- The State Animal Control Unit investigated 945 complaints, 3 livestock damage claims, issued 100 written warnings, 8 infractions, 5 misdemeanors summons and had 5 arrests. It conducted inspections of municipal dog pounds (67 inspections), pet shops (121), pet grooming facilities (390), commercial kennels (209), dog training facilities (113), and processed 63 rabies cases where humans or domestic animals were exposed to a rabid animal.
- The Bureau continues to conduct an annual 96-hour instructional training program, with the assistance and cooperation of the New Britain Police Department, for animal control officers (ACO Academy). Newly appointed municipal animal control officers must complete a minimum of 80 hours of instruction following a curriculum standard as mandated by C.G.S. §22-328. Approximately 22 new municipal animal control officers receive certificates of completion each year. Instructors include Department of Agriculture staff, State's Attorneys, Police Officers, Veterinarians and other subject matter experts all of whom volunteer their time.

#### **Licensing Unit**

The Department has transitioned all licensing processes to the enterprise eLicense system. More than half of the agency's licenses and permits can be obtained or renewed online, increasing productivity for office staff and convenience for the general public. Licenses for the recently legalized hemp program are exclusively online, eliminating the use of a large number of printed pages and making the process more convenient. The agency is working towards eliminating paper renewals and certificates for all licenses, saving not only money but also helping the environment and speeding up the process.

Most of the Department's license records are accessible for review in the eLicense system. The public's access to this information, whether a single license lookup or a complete roster of all licensees of a particular type, can be easily downloaded, facilitating access to information that would otherwise only be available to the public by submitting a request pursuant to the Freedom of Information Act.

DoAg New Licenses for FY19

Credential Type	Number of Applications
ANIMAL CONTROL OFFICER	43
ANIMAL IMPORTER	29
ANIMAL SHELTER FACILITY	4
BULK MILK TANKER	3
COMMERCIAL ANIMAL FEED MANUFACTURER	19
CHEESE MANUFACTURER	1
COMMERCIAL KENNEL	27
COMMERCIAL FEED	96
COMMERCIAL FERTILIZER	41
GROOMING FACILITY	36
HEMP GROWER	64
HEMP PROCESSOR	2
LIMING MATERIALS	3
LIVE POULTRY DEALER	8
LIVESTOCK DEALER/BROKER	4
MILK DEALER	6
MILK EXAMINER	26
MILK PRODUCER	2
MILK SUB-DEALER	5
PET SHOP	5
RETAIL DAIRY STORE	254
RETAIL RAW MILK PRODUCER	1
SOIL AMENDMENTS	16
SEED LABELER	7
TRAINING FACILITY	17
	<b>719</b>

DoAg Renewed Licenses for FY19

Credential Type	Number of Renewals
ANIMAL IMPORTER	140
COMMERCIAL KENNEL	234
GROOMING FACILITY	382
LIVE POULTRY DEALER	24
LIVESTOCK DEALER/BROKER	5
MILK DEALER	30
MILK LABORATORY	5
MILK PRODUCER	12
MILK SUB-DEALER	13
PET SHOP	83
RETAIL DAIRY STORE	622
RETAIL RAW MILK PRODUCER	2
SEED LABELER	20
TRAINING FACILITY	132
	<b>1,704</b>

**Animal Population Control Program**

The Department’s Animal Population Control Program (APCP) continues to increase the level of immunization against infectious animal diseases by providing sterilization and vaccination benefits for dogs and cats to (1) Connecticut residents for dogs and cats adopted from municipal pounds; (2) to low income residents for dogs and cats that they own; and (3) to non-profit organizations engaged in activities aimed at reducing the population of feral cats.

The APCP processed vouchers for 5,683 animals (2,509 dogs & 3,174 cats) from municipal impound facilities, pets owned by low-income CT residents and feral cats from non-profit organizations. Benefits were provided for 4,196 pets for a 74% overall sterilization compliance rate.

**BUREAU OF AGRICULTURAL DEVELOPMENT AND RESOURCE CONSERVATION**

The Bureau of Agricultural Development & Resource Conservation consists of three subdivisions; the Agricultural Development Unit, the Resource (or Farmland) Conservation Unit, and the Regional Market located in Hartford. The bureau directs programs and activities that assist persons in entering, diversifying and expanding their agricultural businesses; compiles statistics regarding all aspects of agriculture in the state; administers the Farmland Preservation Program and the Farmers' Market Nutrition program; and oversees operation and maintenance of the Regional Market warehouse/distribution facilities and its farmers' market.

## **Agricultural Development Unit**

In addition to many other assignments, the Agricultural Development Unit acts as the agency's marketing force. Through grants, Connecticut Grown farmers' markets, Farm-to programs, and publications the unit showcases all sectors of Connecticut agricultural.

### Federal & State Grant Opportunities

- Assisted coordination and promotion of 149 independently operated certified Connecticut Grown farmers' markets, farm stands and mobile markets featuring 303 certified farmers.
- Administered Connecticut's Farmers' Market Nutrition Programs (FMNPs) to provide \$1,354,801 in checks for Connecticut Grown fruits and vegetables at authorized farmers' markets to 48,239 nutritionally at-risk women, infants, and children and 26,110 low-income seniors.
- Successfully applied for and received \$414,270.48 from the United States Department of Agriculture's Specialty Crop Block Grant program to fund six (6) projects to solely enhance the competitiveness of Connecticut specialty crops.
- Funded \$466,122 in matching Farm Transition Grants to eighteen (18) Connecticut farms for projects with a cost of \$1,452,169.80 using Community Investment Account funds. For the past several years, the agency has given preference to Farm Transition Grant applicants who seek to use the funding to implement the federal Food Safety Modernization Act.
- Funded \$378,827 in matching Farm Viability Grants to eight (8) municipalities, twelve (12) non-profits and one (1) Council of Governments for projects with a total cost of \$983,639.58 using Community Investment Account funds.

### Food Export & Wholesale Collaboration

- Partnered with Food Export Northeast to increase Connecticut exports to international markets.
- Provided 266 certificates of free sale to eligible food companies in need of this required documentation to expedite export shipments.
- Enhanced the agency's other wholesale market development programs, including those targeting grocers and other retailers, as well as healthcare and other institutions.
- Including training for producers and wholesale buyers within the food industry as well as buyer/grower networking events facilitating one-on-one meetings between producers and buyers. Individual meetings and conversations with DoAg staff and buyers and users of Connecticut Grown have allowed the agency to develop our efforts for increased sales and use of Connecticut farm products.

### Farm-to Programs

- Rejuvenated the state's Farm-to-Chef program to connect Connecticut farms with foodservice professionals and markets. Through monthly newsletters, email blasts, and Facebook interaction, the Farm-to-Chef program has reinvigorated connections between producers and culinary professionals.
- Organized and coordinated 2018 Farm-to-Chef Week, featuring 48 dining venues offering menus made with Connecticut Grown ingredients. Of the 48 participating venues, 7 were new to the program.
- Continued to strengthen the Department of Agriculture's collaboration with the state Department of Education and its involvement in Connecticut's Farm-to-School program.
- Meetings with the CT Farm-to-School Collaborative open discussions between the Department of Agriculture the Connecticut State Department of Education, School Nutrition Association of Connecticut, and UCONN Extension to better inform our decisions regarding farm to school objectives and plans of action.
- Independent discussions with State Department of Education representatives and DoAg staff with regard to events such as CT Grown for CT Kids Week in October, the Department of Defense Fresh program, and the Fresh Fruit and Vegetable Programs here in Connecticut have allowed for discussions regarding advancement of efforts between agencies.

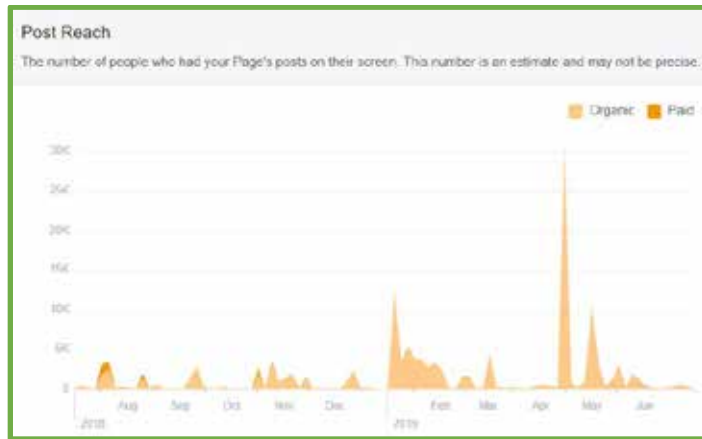


- Successfully applied for and received a 2018 United States Department of Agriculture Farm to School Grant to host the Connecticut Farm-to-School Conference bringing together school food service professionals, producers and other farm-to-school stakeholders for trainings and discussions.

#### Agency Marketing & Outreach

- Operated an online marketplace for Connecticut Grown merchandise and apparel, selling \$9,496.31 in merchandise, helping to strengthen the Connecticut Grown brand.
- Operated three agriculture booths in the Connecticut Building during the 2018 Big E in collaboration with the Department of Economic and Community Development featuring 29 different agricultural organizations or businesses.
- Hosted 2019 Agriculture Day at the Capitol, featuring 48 exhibits showcasing Connecticut agriculture and farm products, in collaboration with the Connecticut Agricultural Information Council.
- Implemented migration of the agency's website to the Sitecore web content management system (WCMS) platform. The agency's website is now consistent with the ct.gov portal template. Utilization of the new WCMS platform will allow the agency to maintain and improve customer service; develop and expand agricultural markets; preserve, protect, and expand the use of working lands; protect populations from getting or spreading agricultural diseases; and protect and inspect animal health and well-being.
- Provided staffing/administrative support to the Connecticut Farm Wine Development Council to deliver \$47,500 in programming for industry members and consumers, including one educational event, one wine passport contest, wine tasting and sales by glass and bottle in the Connecticut Building at the Big E, and development of an electronic application of the wine passport.
- Strengthened the agency's social media program to expand public awareness of Connecticut Grown products and agriculture through seven Facebook pages with more than 20,439 fans combined, and three Pinterest pages with 31 boards, 1,317 pins, 753 followers, and 797 monthly views.
- Published and printed 12,000 copies the third annual issue of Connecticut Grown magazine, including 8 feature articles covering a wide range of agricultural commodities, services, and issues pertinent to Connecticut agriculture and a significant increase in advertiser support enabling the issue to be perfect bound at a total of 52 pages.
- Developed and implemented the following Connecticut Grown advertising campaigns:
  - Connecticut Farm-to-Chef Week: \$2,615, including social media (reaching a total of 7,593 people) and the remainder on radio advertising with Total Traffic and Weather Network during peak drive times (reaching more than 104,330 listeners on the Total Traffic and Weather Network alone).
  - Bilingual Promotion of Connecticut Specialty Crops to WIC Farmers' Market Nutrition Program Users: \$5,250 in federal funds was expended on a variety of bilingual media including radio (iHeartRadio, Bomba) and One Call in August and September 2018 when the grant funding period concluded. This resulted in more than 376 radio spots benefitting almost 1,720 specialty crop producers. Redemption rates for WIC participants increased by 5.8% over 2019 and 6.98% over 2016.
- Facebook Reach, FY 18-19:

## Passport to Connecticut Farm Wineries



## Connecticut Department of Agriculture



## Hartford Regional Market



## Connecticut Farm-to-Chef



## Connecticut Grown Store



## Connecticut Farmland Preservation



## Connecticut Dairy



### Resource Conservation Unit

Agriculture is one of Connecticut's most vital economic sectors, and at its heart is the state's extraordinary farmland. The Department of Agriculture preserves working lands by acquiring development rights to agricultural properties through its Farmland Preservation Program, ensuring that the land remains available only for agricultural use in perpetuity.

The main objective of the program is to establish a food-and-fiber producing land resource base, consisting mainly of prime and important farmland soils that will ensure local availability of fresh farm products and help agriculture to remain an important part of the state's economy.

As of July 2019, the program has preserved more than 44,500 acres on 370 farms. The long-term goal is to preserve 130,000 acres.

### FY 2018-2019 Successes

- Acquired the permanent development rights on 15 farms totaling 1,080 acres at a total cost of \$7,707,500, while leveraging \$1,744,000 in federal USDA Agricultural Land Easement Program (23% cost share) and \$1,294,000 in municipal and land trust funding (17% cost share), bringing the Farmland Preservation Program's total to 368 protected farms covering 44,530 acres.

- Managed and made farmland restoration improvements for 10 agricultural use permits which include dairy, hay, diversified vegetables, and small fruit production.
- Entered into 22 new purchase-of-development rights (PDR) offer agreements to preserve approximately 2,400 acres, encumbering \$15,000,000.
- Advanced an additional 43 other PDR projects, totaling approximately 3,500 acres at an estimated \$17,000,000 in preservation costs.
- Successfully secured \$2,000,000 in new federal FY 2018 USDA federal obligated funds from an Agricultural Lands Easement (ALE) Cooperative Agreement for up to seven PDR projects.
- Submitted applications for the federal FY 2019 USDA ALE program and received pre-approval of \$3,400,000 in additional federal funds towards the permanent preservation of up to fifteen other farms.
- Continued advancing partnerships with 20 municipalities, on a total of 32 ongoing joint farmland preservation projects. These partnerships occur in all eight counties, in rural, suburban and even urbanized areas, including Canton, Easton, East Windsor, Ellington, Lebanon, Middletown, New Hartford, New Milford, Rocky Hill, Southington, South Windsor, Suffield, and Woodstock.
- Also collaborated with multiple land conservation trusts on ongoing farmland preservation project partnerships, including the Canton Land Conservation Trust, Connecticut Farmland Trust, Weantinoge Heritage Land Trust, Southbury Land Trust, Woodbridge Land Trust, and Dutchess Conservancy.

## Protected Farms: CT Farmland Preservation Program

368 Protected Farms as of Summer 2019

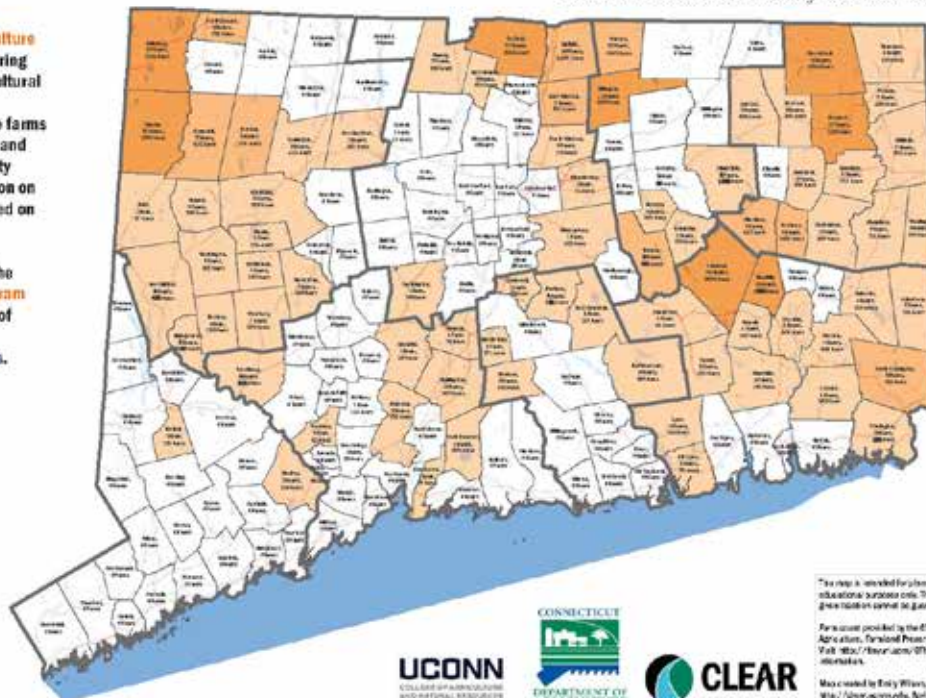
The CT Department of Agriculture preserves farmland by acquiring development rights to agricultural properties in communities throughout Connecticut. The farms remain in private ownership and continue to pay local property taxes. A permanent restriction on nonagricultural uses is placed on these properties.

For more information, visit the [Farmland Preservation Program](http://tinyurl.com/CTfarms) page on the CT Department of Agriculture's website <http://tinyurl.com/CTfarms>.

### Legend

	County
	0 farms
	1 to 5 farms
	6 to 9 farms
	10+ farms

Some farms are located on one lot and are counted as each.



UCONN  
COLLEGE OF AGRICULTURE  
AND NATURAL RESOURCES

CONNECTICUT  
DEPARTMENT OF  
AGRICULTURE

CLEAR  
CONNECTICUT LAND EASEMENT RESTORATION

The map is provided for planning and informational purposes only. The accuracy of the information cannot be guaranteed.

Financing provided by the CT Department of Agriculture, Farmland Preservation Program. Visit <http://tinyurl.com/CTfarms> for more information.

Map created by Emily Wilcox, ES&M, ES&P, MAJ, MS&P, April 2018.

- Preserved two more Community Farms Preservation Program farms comprising 113 acres at a total cost of \$802,400, permanently protecting the farmland for food production in partnership with the

Town of New Hartford (who contributed \$196,200), and with the Town of Canton (who contributed \$164,860).

- Maintained 32 partnership agreements with municipalities for the permanent preservation of farms within these towns, through the Community Farms Preservation Program.
- Assisted municipalities in applying for and receiving locally important soils designation from the USDA Natural Resources Conservation Service (NRCS), which enables farms in their respective towns become eligible for the Community Farms Preservation Program and for USDA NRCS Agricultural Lands Easement funding. The total number of municipalities with USDA locally-important soils is now up to 91, now representing more than half of the state's 169 towns.
- In FY 18-19, provided over \$710,000 in funding through the Farmland Restoration Grant to 49 projects with \$1,583,000 in total project costs, bringing more than 430 acres back into active agricultural production, for a total of more than 292 applications with an estimated 2,620 acres since the program's 2012 inception.
- Continued improving and enhancing the Connecticut Farmlink website, which averages more than 1,900 visits per month and 3,000 page views per month, helping connect new and beginning farmers to owners with available farmland.

### **Hartford Regional Market**

The Hartford Regional Market is a statutorily authorized facility located at 101 Reserve Road in Hartford. Its purpose is to provide a central location for farmers and wholesalers to sell and distribute food and other agricultural products. It covers 32 acres, contains 230,386 square feet of warehouse space, an active railroad spur, and 144 stalls in its farmers' market.

Known as the largest perishable food distribution facility between New York and Boston, the Regional Market operates 24 hours a day, seven days a week. With convenient access to Interstates 84 and 91, as well as Routes 5 and 15, this centrally located food hub serves the Northeast.

The Hartford Regional Market is operated by the state as a non-profit venture, under the Connecticut Marketing Authority.

### **Hartford Regional Market Income**

- Generated \$441,000 in revenue through lease/rental of building space at the Regional Market to 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 billboard rental income
- Generated \$127,850 in revenue through land leases at the Regional Market.
- Generated \$59,000 in revenue through railroad usage fees at the Regional Market.
- Generated \$15,000 in revenue for parking and rental fees.
- Operated the farmers' market at the Regional Market featuring 37 Connecticut farmers and vendors, attracting thousands of shoppers on weekends and generating \$33,745 in revenue through stall rentals.

## **BUREAU OF AQUACULTURE**

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 Alternate Regulatory Representative on the ISSC Executive Board 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 761 Oyster Seed Boat Licenses.
- Staff performed sanitary and records inspections of the 95 shellfish harvest vessels, 45 harvest operations and 30 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 5454 seawater samples for fecal coliform bacteria, examined 119 phytoplankton samples for harmful algal blooms, 18 samples for paralytic shellfish poisoning (PSP), 198 shellfish tissues for fecal coliform bacteria analysis, and 8 shellfish tissue samples tested for total *Vibrio parahaemolyticus* (Vp) and total *Vibrio vulnificus* (Vv).
- Forty Two shellfish tissue, municipal wastewater, and seawater samples were analyzed for MSC (Male-Specific Coliphage) levels, used to evaluate viral impacts.
- For Comparison FY20 (July 1/19 –August 23/19) excessive rainfalls have resulted in the following laboratory sample work: 977 Seawater Fecal Coliform, 48 Phytoplankton, 0 PSP, 48 Shellfish Tissue Coliform, 0 Vp, 0 Vv, 6 MSC.
- Ten Individuals have kelp aquaculture operation certificates and the necessary gear permits. Five individual producers were licensed by the Bureau to harvest and sell Kelp.
- The Bureau performed an annual aquaculture certificate inspection of the first indoor finfish Aquaculture facility permitted in Connecticut, Ideal Fish. Ideal Fish is a recirculating aquaculture systems company dedicated to bringing fresh seafood to local markets. As the only commercial scale facility of its kind in the Northeast, this state-of-the-art \$14 million dollar operation is producing sustainably raised European Seabass.
- The Bureau issued ten aquaculture producer permits for finfish grown for stocking ponds, in addition to three permits for vocational schools growing finfish for educational purposes.
- The Bureau has developed and enacted a comprehensive plankton monitoring Biotxin protocol.

#### **Enhanced Biotxin Personnel Training & Comprehensive Monitoring Plan**

Connecticut has a thriving shellfish industry and has reliably produced safe clams and oysters for people to enjoy. Phytoplankton are microscopic organisms that act as the base of the marine foodweb; a small percentage of phytoplankton are Harmful Algal Bloom (HAB) species. HABs are deemed harmful because they are associated with toxin production and have detrimental effects on human health and the environment. Marine and/or freshwater HABs impact every single state in the United States. The DA/BA

monitors HABs in Long Island Sound because they can be filtered out of the water column by bivalve shellfish and their toxins can become concentrated in shellfish tissues. Although Connecticut has not experienced a marine HAB-related closure since 2003, the DA/BA has consistently maintained phytoplankton and toxin monitoring programs as an early warning system, and collaborates with partner agencies to respond to potential HAB events and fish kills. DA/BA initiated the biotoxin monitoring program in 1985 and phytoplankton monitoring program in 1997.

The neighboring states of New York and Rhode Island are managing emerging toxic HAB events that have not yet caused closures in Connecticut. The emergence of HABs strains local industries, such as the shellfish industry, and requires additional monitoring efforts by regulatory agencies, such as the DA/BA. There is a general consensus among scientists that the intensity and frequency of HABs are increasing around the world. The increasing threat of HABs globally, the reoccurrence of many harmful species along the New York border of Long Island Sound and neighboring Rhode Island waters, along with much still to be learned about what causes and controls HABs, has led the DA/BA to ensure that staff is continually prepared for potential blooms and any associated consequences for the shellfish growing areas, harvesters, and consumers. These changes have led to an expansion of HAB monitoring from the spring and summer months to year round sample collection.

While the DA/BA has monitored HABs in Long Island Sound for decades, staff have recently invested in improving the phytoplankton program to include specialized training of one staff member, who will act as the HAB specialist; semi-quantitative analysis of HAB species; increased monitoring throughout Long Island Sound; and the addition of a new microscope, funded by an FDA grant. In August 2018, a DA/BA staff member was selected to attend the intensive, week and a half long Monitoring and Event Response for Harmful Algal Blooms (MERHAB) training course at the Bigelow laboratory, which was directed by phytoplankton experts. The staff member was trained in the identification and taxonomy of over 60 traditional and emerging U.S. marine HAB species. The HAB specialist has also received FDA funding to attend the upcoming 10<sup>th</sup> U.S. HAB Symposium in November 2019, which will focus on emerging HABs in the U.S.. Additionally, the DA/BA has greatly enhanced the type and amount of data that is generated by the phytoplankton program. Staff members are collecting semi-quantitative phytoplankton net tows that generate data as cell concentrations allowing for the monitoring of abundance of HAB species overtime. The DA/BA has been collecting monthly samples from all towns with active shellfish programs. Recreational and town shellfish programs are also being trained in phytoplankton collection, which will provide increased coverage with minimal staff time requirements. A minimum of 16 coastal towns are being sampled monthly, with a total of 61 established phytoplankton stations. Furthermore, the DA/BA traditionally has sampled from May – October; however, staff members are initiating year-round monitoring with the goals of increasing consumer safety and collecting enough data to begin selling Long Island Sound shellfish to the European Union again. The EU has restricted the import of U.S. shellfish on the basis that US HAB programs were deficient relative to EU standards. The states of Washington and Massachusetts are working to improve their HAB programs and export to the EU. The expansion of the Connecticut program will allow our shellfish harvesters to compete in this new market. Finally, the DA/BA received an FDA grant, which completely covered the cost of a new microscope that was recommended by phytoplankton experts and has specialized features that will increase staff efficiency.

### **Shellfish Vessel Monitoring System**

In accordance with the Nssp MO, the designated authority, DA/BA, must develop and maintain an effective program to control the harvest, transport, replanting, and security of shell stock until the end of complete relay activities to prevent shell stock from being illegally diverted to direct marketing. This is to ensure compliance with the Nssp-MO and to protect public health.

Previously, the department and the DEEP relied on random patrols and a dispatch call in line to monitor vessel activity, as is required under the Nssp-MO, to determine compliance with the federal



requirements. The FDA has found this practice noncompliant with National program standards in recent years, and a continued deficiency could result in a prohibition to ship shellfish out of state, inflicting significant harm on the industry.

In October of 2017, the department implemented a voluntary vessel monitoring (VMS) project in conjunction with the dredging of the federal channel in the Housatonic River in Stratford. The VMS units enable the department to ensure the security of the transplanted polluted oysters, and protect depuration practices by ensuring that the transplanted oysters remain planted for a minimum of six months and that unauthorized vessels do not remove oysters prematurely. Beginning with the 2018-19 license year, VMS will be a license requirement for all vessels that conduct relay activity in restricted or prohibited waters.

This program will allow the Department to remain in compliance with the requirements of the National program, while protecting the industry from illegal activities. The Department plans to use the tracking data collected to inform resource management/enhancement efforts.

The Bureau of Aquaculture has overseen the installation of the VMS system on 114 licensed vessels and are determining the scheduling for the remaining 24 licensed vessels.

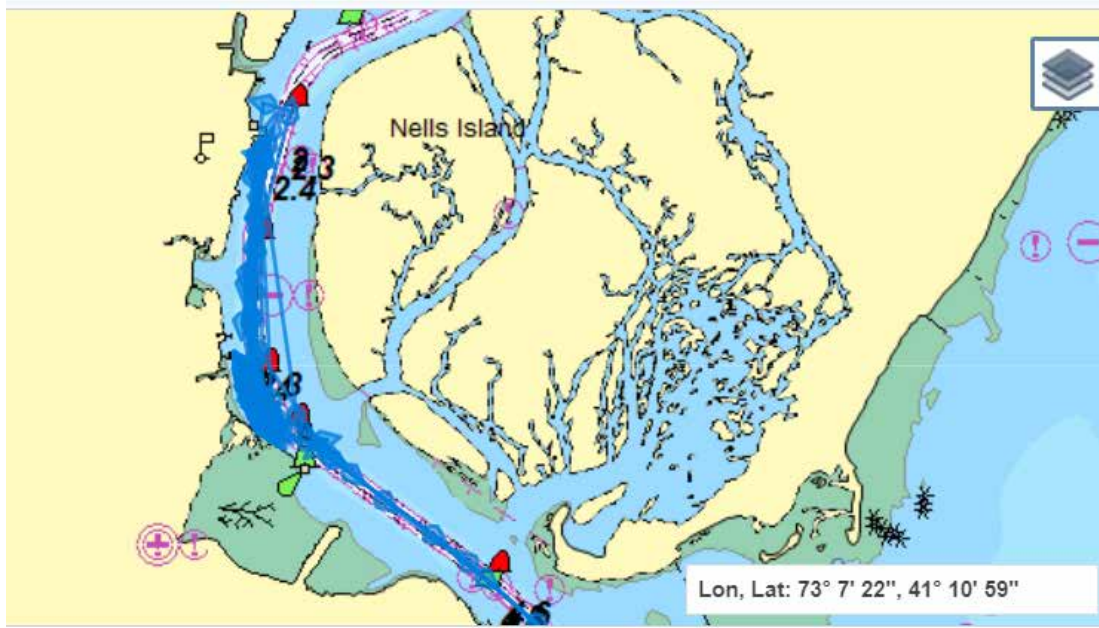


Figure 1. Example vessel track of a vessel working in the Housatonic River navigational channel.

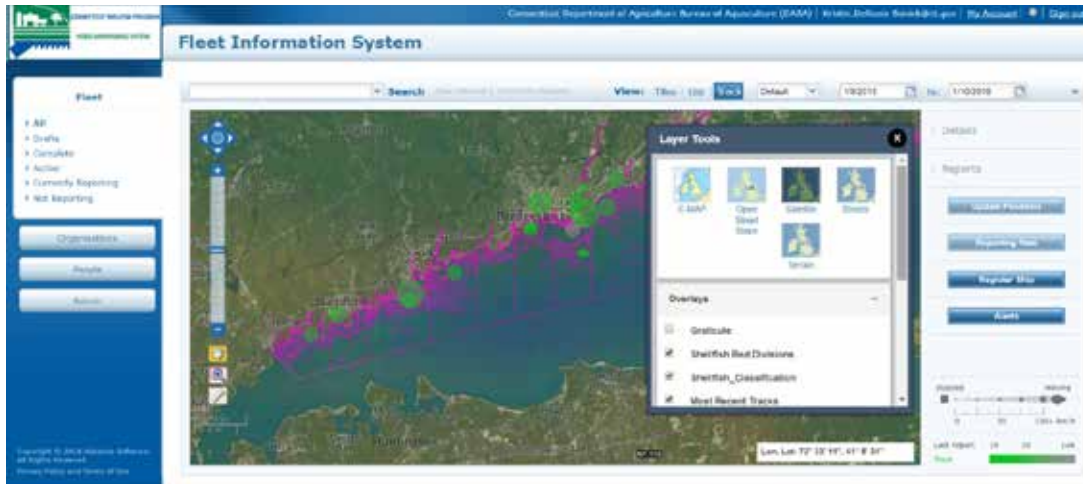


Figure 1. Example dashboard from the Fleet Information System showing the location of active vessels (green) overlaid with shellfish bed boundaries (purple).

### **Guide to Marine Aquaculture Permitting in Connecticut Updated**

The Connecticut Department of Agriculture, Bureau of Aquaculture is the lead state agency for aquaculture development. The DA/BA Director serves as the State Aquaculture Coordinator, and acts as a liaison among local, state and federal permitting officials which comprise the Connecticut Aquaculture Permitting Work Group. The key agencies include the Connecticut Department of Energy and Environmental Protection (DEEP), the U.S. Army Corps of Engineers (USACE) and municipal shellfish commissions. The Work Group coordinates the regulatory review process with other local, state and federal agencies depending on the nature of the proposed aquaculture activity.

The Guide to Marine Aquaculture Permitting is in final publication after a brief public comment session and will be posted to Department website as soon as it is available.

### **Branford Sustainable Aquaculture Initiative**

The acquisition of Town Shellfish Franchise grounds presents a unique opportunity to grow the shellfish industry in Connecticut. Underwater lands of Long Island Sound are held in Public Trust by the State of Connecticut, however shellfishing rights were legislated to the Town through the 1855 Act “regulating and protecting the planting of Oysters.” The Town Shellfish Commission designated those shellfish rights to individual applicants, those rights continue in perpetuity and can be transferred.

The Department of Agriculture acquired 900 acres of this shellfish franchise ground in Branford in 2014. The Department purchased those rights to create an aquaculture incubator area and will administer the planting and cultivating of shellfish on the parcels through licenses allowing individuals to conduct shellfish activities. The intent is to foster the development of new commercial aquaculture enterprises, public awareness of and support for local and sustainable aquaculture, and public stewardship of the environment.



The Branford Sustainable Aquaculture Initiative will create local economic and environmental benefits via:

- Small-scale cage and bottom culture of oysters and clams,
- Diversification into seaweed culture and mussel production,
- Expansion and enhancement of public recreational shellfishing areas,
- Collaborative research projects between the Department of Agriculture, National Marine Fisheries, State and private universities, and Connecticut Sea Grant,
- Potential development of new species and culture technologies,
- New opportunities for Education and Workforce training for the Regional Science Agriculture high schools (Bridgeport, New Haven, and Groton), with an aquaculture focus, and creation of a mechanism for entry into commercial aquaculture ventures, and
- Develop partnerships with Non-Government Organizations, Conservation, and Environmental Organizations.

Currently, seven five acre parcels have participants planting and cultivating shellfish.

### **Shellfish Growing Area Program**

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. This testing also provides a way for staff to assess public health impacts from pathogenic viruses, such as the Norovirus, by using MSC as an indicator organism.

### **Shellfish Restoration**

The Bureau of Aquaculture has been awarded a USDA NRCS grant for a restoration project, which will be conducted in partnership with Connecticut Sea Grant, and the Department of Agriculture, Bureau of Aquaculture, and the Department of Energy and Environmental Protection, will fund analysis of GIS maps that show environmental conditions and human use patterns in various areas of the Sound. It will include a preliminary map of potential shellfish restoration areas to help state agencies facilitate discussions with interested parties about where and how efforts should be focused. Project partners will work in collaboration with town shellfish and harbor management commissions, city planners, coastal engineers and the commercial shellfishing industry to better understand local opportunities and constraints.

<https://seagrant.uconn.edu/2018/11/01/restoration-plan-for-sounds-shellfish-beds-is-goal-of-new-project/>

The Bureau has additionally been awarded a grant for Mapping of Natural Oyster Beds in Connecticut from Connecticut Sea Grant. Enabling the purchase of a SeaViewer underwater video camera and GPS system. With this new technology, shellfish program managers at the DA/BA will be able to collect high-definition video over thousands of acres of natural beds, post-process the data and categorize according to bottom type through visual analysis, and then convert that data to geographic information. These maps could be made available to industry, shellfish commissions, partner agencies and the public to inform future restoration and management efforts across the state. The DA/BA would offer this mapping service to assist municipal shellfish commissions with shellfish bed enhancement and restoration efforts.

### **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* (*Vp*) during the summer of 2013, with another additional 15 cases potentially linked to Connecticut waters that year. This outbreak occurred with a *Vibrio parahaemolyticus* Control Plan (VPCP) in place which limited time from harvest to refrigeration to 5 hours, and required oysters to be cooled to  $\leq 50^{\circ}$  within 5 hours of refrigeration. The 5 hour limit was inadequate to prevent the 2013 outbreak from occurring, and a more stringent control plan has been required in the outbreak area in the years since the 2013 outbreak. Prior to 2013, only sporadic cases had been linked to Connecticut growing areas. This area now operates with a VPCP requirement that all oysters reach an internal temperature within one hour of harvest.

In 2015, the DABA was able to further refine the VPCP implementation triggers for the outbreak area from a date to a water temperature trigger. This new trigger was based upon new data developed using the Long Island Sound *Vp* Prediction System (Whitney, Ward, & DeRosia-Banick, 2016). In 2015, Connecticut's VPCP for the 2013 outbreak area was triggered when surface seawater temperatures reached 68°F (20°C) as measured using the NASA GISST 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 has proven effective.

### Vp Prediction System Development

We have begun development of a Vp prediction system for shellfish in LIS. **At this stage, the results below should be viewed as demonstrating prediction techniques. It is unclear whether these results are representative of actual conditions; further analysis and comparison with observations are needed. These demonstration results are not intended for use in management decisions or for informing shellfish-related issues.** This prediction system involves the following steps:

1) Daily sea-surface temperature (SST) data are acquired from the GISST 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.

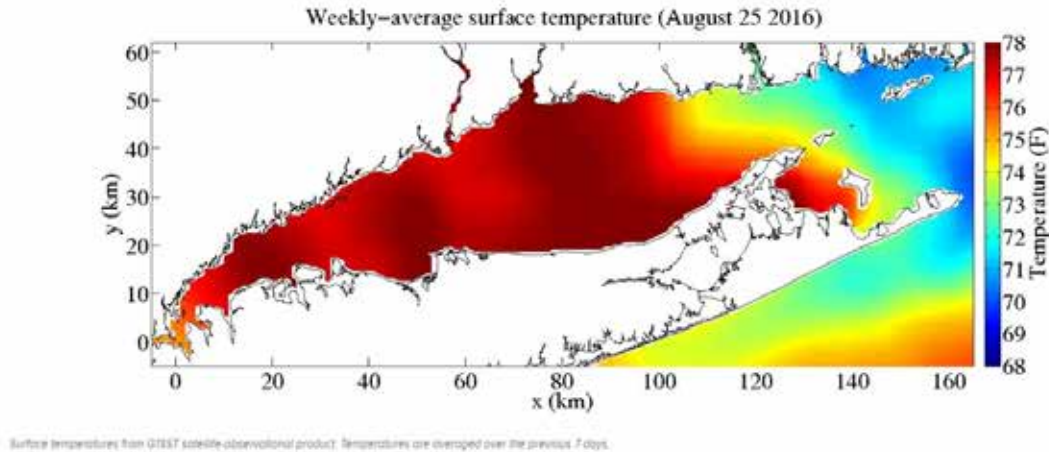


Figure 2. Long Island Sound Vp Prediction System, Whitney, Ward and DeRosia-Banick, 2016. 1) Daily sea-surface temperature (SST) data are acquired from the GISST product (from the NASA Jet Propulsion Laboratory) that includes observations from satellites. The prior week (7 days) of SST are averaged together 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.

The number of *Vibrio* illnesses associated with shellfish growing areas within the municipalities of Westport, Norwalk and Darien was reduced from 22 during 2013 to one (1) case in 2014, two (2) in 2015, one (1) in 2016 and 2017, and none in 2018, achieving an illness reduction of 95.6% in 2014, 2016, and 2017, and 100% in 2018 compared to the 2013 season. Clinical isolates associated with confirmed cases linked to Connecticut growing areas in 2014, 2015 and 2016 provide evidence that the O4:K12 virulent outbreak strain is still present in Connecticut growing areas. Based on the results of a 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 during the years since the 2013 event.

Connecticut's shellfish industry produced 348,000 100 count bags of oysters in 2016 and 310,000 100 count bags in 2017. In the years 2008 to 2013 the shellfish industry produced approximately 200,000 100 count bags of oysters.

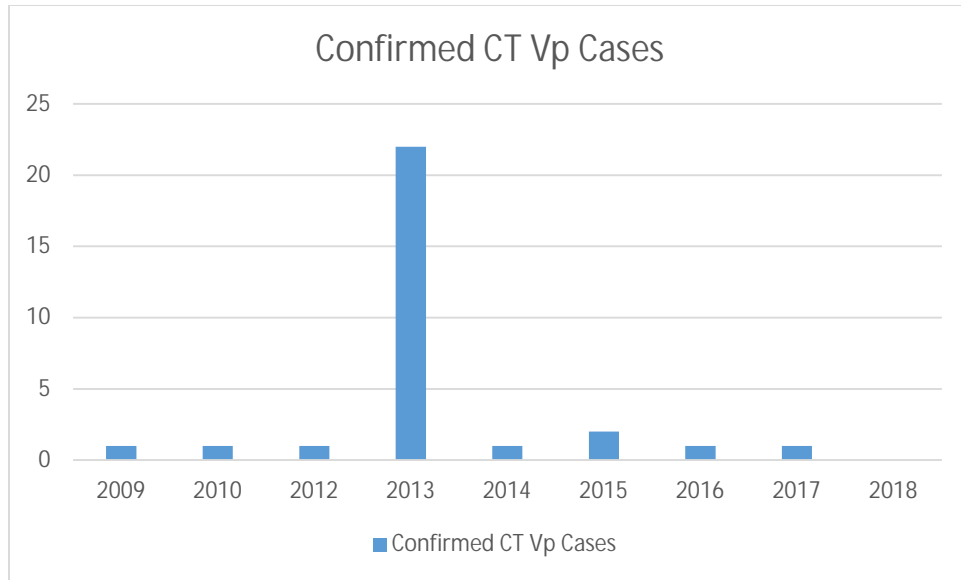


Figure 3. Confirmed *V. parahaemolyticus* cases linked to Connecticut shellfish, 2009 through 2017

#### Update to Connecticut Shellfish Initiative Vision Plan

Two meetings were held during July and August with members of the commercial aquaculture industry from the Connecticut coast. Representatives of commercial shellfishing and kelp businesses, along with state Department of Agriculture officials, the Bureau of Aquaculture and Connecticut Sea Grant staff, to brainstorm revisions and updates to the 2016 Vision Plan created under the Connecticut Shellfish Initiative. Following a Connecticut Sea Grant survey in January of commercial shellfish harvesters about their research needs (also included in this document), two meetings were held with the objective of brainstorming with shellfish harvesters about updates and revisions to the plan.

#### Aquaculture Dairy Laboratory Accomplishments

Bureau of Aquaculture staff serve as the Dairy Laboratory Evaluation Officer (CT LEO) 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, the Connecticut Laboratory Evaluation Officer schedules and performs laboratory evaluations of both FDA certified appendix-n screening facilities and certified laboratories. There are a total of 2 certified laboratories and 10 screening facilities evaluated. Half of these facilities will be evaluated in 2019. In addition, the CT LEO continues to speak with both new farms and new dairy processing plants about becoming a FDA certified Grade A facility.

In addition to the evaluations, the CT LEO organizes proficiency testing for the labs, certifies all the analysts before coming online to perform the procedures; this includes providing written exams and practical's they must pass in order to become certified in the state. The LEO also helps new labs and already certified facilities develop and fine-tune all quality control/quality assurance operating procedures at their facility. Connecticut as a total of 61 certified analysts that are evaluated every two years. In 2019, 8 new analysts became certified to process dairy samples in the laboratory.

The CT LEO also visits intra-state farms to help educate the farms about the necessity of antibiotic screening. The LEO also makes and organizes split samples for these facilities to participate in to effectively measure their efficiency in processing samples for antibiotic detection. These split samples will be done in November.

The CT Laboratory Evaluation Officer will be recertified in August of 2020 by the FDA. This is done every three years.