



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: \$14,269,955

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 Department of Agriculture's mission 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 of Agriculture provides public benefits by empowering its three bureaus to promote and protect Connecticut Agriculture. Through the agency's Bureau of Regulatory Services, inspectors ensure domestic animals' health and wellbeing, the safety of produce and dairy products, and that local agricultural businesses are properly trained to meet food safety requirements. The Bureau of Agricultural Development and Resource Conservation provides direct assistance and programs to farm operations entering, diversifying, or expanding their agricultural businesses. It makes direct positive impacts on communities through the Farmland Preservation Program, the Senior and WIC Farmers Market Nutrition Program, Farm to Chef, and Farm to School programs. The Bureau of Aquaculture oversees marine and inland aquaculture production activities, administers the state Shellfish Sanitation Program, and operates the laboratory in Milford, leasing and restoration of shellfish beds, and licensing of persons engaged in commercial harvesting of shellfish.

The Connecticut Department of Agriculture continues to inform the public with direct engagement of 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.

2022 Legislative Changes

During the 2022 Legislative session, several key changes were made to the statutes under the Department of Agriculture's authority and to support the work that the state is doing to mitigate climate change.

The Department's legislative package was combined and became Public Act 22-54. This legislation reconstitutes the Governor's Council on Agricultural Development and Innovation- while updating membership to be reflective of the current agricultural industry and charges the council to make recommendations on ways to increase agriculture in the state by developing innovative market opportunities, including urban agriculture, integration and adoption of new technologies, controlled environment agriculture, and diversification of products and opportunities. This legislation also makes conforming language changes for service animals, updates the definition of aquaculture to include long lines, expands the circumstances where cervids can be imported into the state, and forms a working group with DoAg and the Town Clerks Association to develop a plan for a state-wide, online dog licensing portal.

In addition to the agency's legislative proposal, there was an increase to the gross sale limit for cottage food operations, the creation of a working group to study how CT's existing hemp industry plays a role in the emerging cannabis industry, the expansion of the manufacturer tax exemption to include farm wineries, revisions to notice requirements for pesticide applications near lakes and ponds, and an expansion of CT's Clean Energy Program.

Using American Rescue Plan Act (ARPA) funding, the state budget increased the allocation for the CT Grown for CT Kids Grant Program to \$500,000 for FY23. In its initial grant cycle, this program received over 59 applications with almost \$1 million in requests.

DoAg will receive up to \$14 million, through a combination of General Fund dollars and bonding, to invest in climate smart agriculture and forestry practices. Building off the work done in the Governor's Council on Climate Change and Executive Order 21-3, which charged state agencies to make significant efforts to aide in meeting our climate change goals. This historic investment speaks to the large part that the agricultural community plays in Connecticut's climate change strategy and how crucial Connecticut farms are to meeting our goals.

There is additional funding for grants for food resource organizations for capital improvements, funding to implement farm manure management systems, and funding to support the care of seized animals.

BUREAU OF AGRICULTURAL DEVELOPMENT AND RESOURCE CONSERVATION

The Bureau of Agricultural Development and Resource Conservation is comprised of two units: the Agricultural Development Unit and the Resource Conservation Unit. The bureau offers programs and services that assist farms with entering, diversifying, and expanding their agricultural businesses and administers the Farmland Preservation Program, among many others.

AGRICULTURAL DEVELOPMENT UNIT

In addition to many other functions, the Agricultural Development Unit conducts marketing and outreach to both farmers and consumers. It provides business development services in cooperation with state, federal, and private partners for both direct-to-consumer and wholesale market opportunities through a diverse portfolio of 25 different programs and services.

State & Federal Grant Opportunities

- Assisted coordination and promotion of 103 independently operated certified Connecticut Grown farmers' markets, farm stands and mobile markets featuring 224 certified farmers.
- Administered Connecticut's Farmers' Market Nutrition Programs (FMNPs) to provide \$1,621,365 in checks for the purchase of Connecticut Grown fruits and vegetables at authorized farmers' markets to 42,023 nutritionally at-risk women, infants, and children and 27,805 low-income seniors.
- Successfully applied for and received \$396,980 from the United States Department of Agriculture's Specialty Crop Block Grant program to fund four (4) projects to enhance the competitiveness of Connecticut specialty crops.
- Provided \$16,625 in federal funds to 39 certified organic producer and processors to reimburse up to 50%, not exceeding \$500, of their annual USDA organic certification.
- Funded \$445,000 in matching Farm Transition Grants to twenty-three (23) Connecticut farms for projects with a total cost of \$866,265.10 using Community Investment Account funds. Farmers and agricultural cooperatives were encouraged to apply to one of the four available categories:
 - New Farmer Microgrants for farmers within the first one to three years of entering the agricultural industry, who are looking to expand production and operation with infrastructure purchases.
 - Infrastructure Investment Grant: for farmers with at least three full years of business looking to purchase equipment, tractor attachments, irrigation, tools, etc., or improve their existing facilities to accommodate increased production and operations.
 - Research and Development Grant: for farmers interested in testing market response to developing new CT Grown products, determining consumer preferences, and testing recipes for new value-added products.
 - Innovation and Diversification Grant: for farmers looking to diversify their current offerings to produce new products, utilize innovative technologies to improve efficiency, scale of production, and sustainability of agricultural practices.
- Funded \$265,000 in matching Farm Viability Grants to one (1) municipality, six (6) non-profits and one (1) Council of Government for to support projects with that had a total cost of \$1,372,986 using Community Investment Account funds. Funding questions of focus centered around:
 - Encouraging diversity, equity, and inclusion in CT agriculture
 - Increasing opportunities for urban agriculture
 - Supporting the regional and local food supply chain
 - Improving farmland accessibility

Export Assistance & Wholesale Collaboration

- Partnered with Food Export Northeast to increase Connecticut value added food and agricultural exports to domestic and international markets. In FY 2022, seven Connecticut companies took part in 32 events and/or trainings to increase their exporting opportunities.
- In FY 2022, seven Connecticut opportunities participated in the Branded Program, a cost-share reimbursement program made available through the DoAg/Food Export partnership to offset costs associated with exporting Connecticut produced goods.
- Provided 268 certificates of free sale to eligible Connecticut food companies which needed this necessary documentation to export their products.
- Offered training for producers and wholesale buyers within the domestic and international food industry through in-person events and a library of webinars on export education
- Provided sales opportunities with Food Export Northeast through coordination of one-on-one meetings with buyers, wholesale distributors, and brokers.
- In FY 2022, through a partnership with Food Export Northeast, Connecticut suppliers had the opportunity to showcase their products to international buyers through over 50 trade shows, buyers' missions, and focused trade missions, domestically and internationally. During these events, buyer/producer networking opportunities, one-on-one meetings between producers and buyers, and translation services for exhibitors were provided.

"Farm-to-" Programs

- Continued the state's Farm-to-Chef Program to connect Connecticut farms with foodservice professionals and markets. Through radio ads, email blasts, and Facebook interaction, the Farm-to-Chef program has highlighted connections between producers and culinary professionals.
- Thirteen restaurants, two congregate meal locations, one school, and one culinary training program participated serving a total of 3,655 meals with \$12,750 spent on Connecticut grown product from Connecticut farms.
- A kickoff event was held at City Seed's Wooster Square Farmers Market in New Haven CT. The event brought an additional commodity to the market (shellfish producer) and featured two cooking demonstrations from local vegan, women of color chefs Poreyah Benton and Chrissy Tracey. The event shared details of Farm-to Chef Week and promoted the participating venues Farm-to-Chef Week 2021 as well as general consumer awareness of the CT Grown program.
- Farm-to-Chef Week was sponsored by Highland Park Market, Skyline Studios, CT Dairy, Farm Credit East, Freshpoint, Bozzuto's, and Sardilli Produce. DoAg promoted Farm-to-Chef Week and it's sponsors on WNPR with a total of 20 Sponsor IDs on promos and 2 Sponsor IDs before the 2021 Seasoned show. This included 24, 15-second spots and a digital banner on the Seasoned webpage and WNPR.org as well as in the WNPR weekly e-newsletter at a total cost of \$3,000, generating 80,656 digital ad impressions.
- Strengthened DoAg's leadership position in the CT Farm to School Collaborative, a statewide networking group for Farm to School activities by serving as the co-lead for the Values Based Sourcing and Purchasing team which focuses on facilitating local procurement efforts in schools and working with school food program leads/producers to identify and overcome barriers.
- Participated in a series of strategic planning sessions to build a new strategic plan of the CT Farm to School Collaborative. Actively involved in the creation of a steering committee which DoAg will have a seat on.
- Organized partners (Put Local on Your Tray, FoodCorps CT, CT State Department of Education and others) to create material for 2021 CT Grown for CT Kids Week, October 4-8, 2021.
- Helped develop and promote a menu of activities for schools to engage with farm to school programming throughout the year. Helped to develop social media and outreach toolkits for distribution to schools.
- Received \$82,000 in funding through the USDA Farm to School grant program in collaboration with UConn Extension, Connecticut Department of Education, and FoodCorps CT. The funding

will enable us to conduct research on current CT Grown purchasing amounts in schools, lead in depth procurement-based work with four school districts, and to create equity focused educational promotion campaigns

- Attended a multi-day national farm to school producer training held by National Center for Appropriate Technology, USDA, and National FTS network to form the basis for a CT state producer training.
- The CT Grown for CT Kids Grant passed in the 2021 legislative special session, a statewide grant for schools, early childcare providers, boards of education, and partner organizations to provide financial support to create and further farm to school initiatives. DoAg is the administering agency of the grant. Created the structure for the new grants program and opened it for applications on October 26, 2021. The application period closed on December 20, 2021 and received 60 applications. Awards were announced in early 2022 and 14 projects were funded. A second round will open in Fall of 2022.

COVID Response & Emergency Feeding

- The Department of Agriculture in April of 2022 entered into a cooperative agreement with USDA Agriculture Marketing Service (AMS) for the Local Food Purchase Cooperative Agreement Program. The award for Connecticut is \$3,010,276.00. The agreement is from April 2022 to October 2024.
- The purpose of CT DoAg's LFPA grant program is to maintain and improve food and agricultural supply chain resiliency through: supporting local and socially disadvantaged producers through building and expanding economic opportunity, and establishing and broadening partnerships with producers, the food distribution community, and local food networks to ensure the distribution of fresh and nutritious foods in rural, remote, or underserved communities.
- The Department awarded \$850,000 to CT FoodShare for their Farmers to Neighbors program to purchase CT Grown farm products and distribute throughout their network of pantries.
- The Department conducted an open competitive grants process for the remainder of the funds which closed on May 31, 2022 and received 22 applications totaling \$5,678,521 in funds requested.

Agency Marketing & Outreach

- Industry Outreach Events: The bureau frequently engages in a number of industry related events to engage with the industry and make them aware of the programs and services provided through the Ag Development Unit and agency as a whole. COVID-19 continued to provide a number of disruptions to in-person events, however, many transitioned to a virtual format. These events in FY 2022 included:
 - Plant Science Day (August 2021)
 - Connecticut Seaweed Workshop (September 2021)
 - Grown Connected Launch (October 2021)
 - Farm Bureau County Annual Meetings (various October – November 2021)
 - SNACT Annual Conference (October 2021)
 - Working Lands Alliance Annual Meeting (November 2021)
 - Connecticut Farm Bureau Annual Meeting (November 2021)
 - CT Milk Promotion Board Farmer Engagement Meeting (December 2021)
 - Farm Viability Grant Virtual Writing Workshop (December 2021)
 - Urban Agriculture Webinar Series (January 2022-March 2022)
 - Farm Transition Grant Virtual Writing Workshop (February 2022)
 - Enfield Ag Summit (February 2022)
- Agency Website: The importance of an updated, relevant website as the agency's information source to the industry and consumers is critical. In FY2022 the following occurred to ensure this effort was adequately maintained:

- Expanded the number of content and system administrators to improve website maintenance and relevancy.
- Reorganized the Boards, Councils, and Commissions with templates to provide a cohesive experience for visitors.
- Transitioned grant programs to a grant-specific template for easier use and better navigation
- Removed outdated pages
- Utilized the detach/attach function for media files to prevent broken links.
- Worked with NIC to create new bureau pages that have defined breadcrumb paths for better navigation within a bureau-specific section.
- Inserted iFrames to mirror time-sensitive pages from outside of the agency.
- Continued to utilize the website to improve customer service; develop and expand agricultural markets; preserve Connecticut farmland and expand the use of working lands; protect populations from getting or spreading agricultural diseases; and protect and inspect animal health and well-being.
- Other Agency Supported Websites: To support Connecticut agriculture and make the availability of Connecticut Grown farm products known, the agency also:
 - Renewed the user-friendly website redirect of www.CTGrown.gov;
 - Maintained additional consumer-friendly website alias including: www.PassporttoCTFarmWine.com; www.GrowCTFarms.com;
 - Maintained standalone websites including: CTDairy.org; ConnecticutGrownStore.com; CTApples.org
 - ConnecticutGrownStore.com: Operated an online marketplace for Connecticut Grown merchandise and apparel, earning a gross sales revenue of \$17,957.19 in merchandise, helping to strengthen the Connecticut Grown brand, including updating inventory to include items with new CT Grown brand logo and messaging.
 - Maintained additional websites including: ctpantryresources.com to connect food pantries with data and state-wide resources and ctfoodpolicy.com to provide a platform for resources and education around the council and its work.
 - Maintained a standalone consumer-facing website, CTGrown.org, as part of the rebranded CT Grown campaign and integrated CTWineCountry.com as consumer-facing website for farm wineries.
- Boards Councils and Commissions: The bureau works with four statutorily authorized boards and councils to have industry representations to the agency and to advance the industries of focus. These include:
 - Farm Wine Development Council: Provided staffing/administrative support to the Connecticut Farm Wine Development Council to deliver \$48,400 in programming for industry members and consumers, including development of an updated electronic application of the wine passport and multimedia marketing campaign to promote Connecticut's farm wineries. The new Passport to Connecticut Farm Wineries was released on May 25, 2022. At the end of the fiscal year the app had 4,494 downloads and 18,360 active sessions.
 - Connecticut Milk Promotion Board: Provided staffing/administrative support to the Connecticut Milk Promotion Board to deliver more than \$411,871.10 in programming and marketing, including farm-to-school grants; partnerships between health professionals and nutrition educators; farmer engagement grants; crisis training for dairy farmers; social media ambassadors training; sponsorship of Connecticut Dairy Day at the Hartford Yard Goats; and pantry cooler grants to support food insecurity during the COVID-19 pandemic.
 - Connecticut Food Policy Council: Provided staffing/ administrative support to the CT Food Policy Council, bringing together council members representing state agencies,

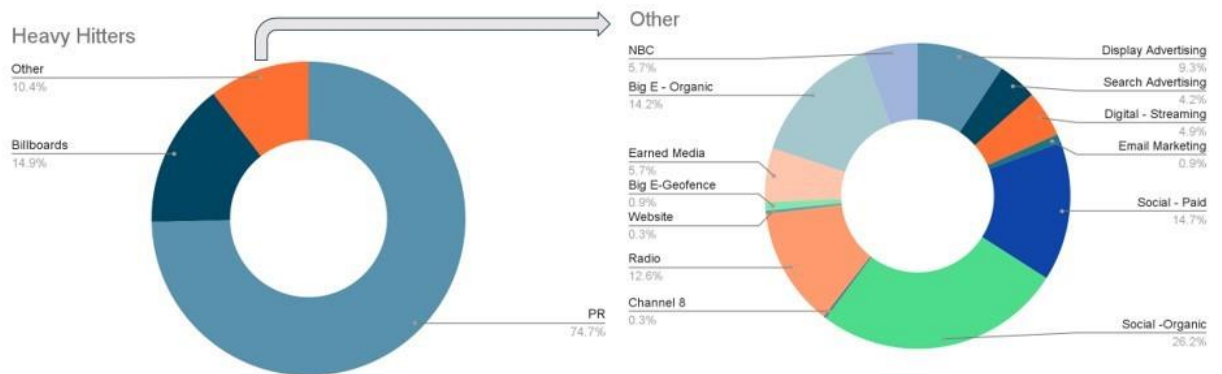
agricultural organizations, anti-hunger organizations appointees from the general assembly, and members of the general public. The council convened to discuss food policy and practices, available resources, current initiatives, and information sharing. In 2021, the council contracted with the Connecticut Agricultural Mediation Program (CTAMP) at Quinnipiac University School of Law to

- develop a strategic plan to implement over the next three years and began preparing for the release of the Food System Capacity Building Grant, which will be released in September of 2022.
- Connecticut Apple Marketing Board: Provided staffing/ administrative support to the Connecticut Apple Marketing Board, promoting Connecticut Apple Producers through marketing efforts. These efforts included: Maintaining www.CTApples.org, the CTApples App, CTApples Facebook page, Instagram page, and Pinterest page.
- Consumer Outreach Events: The bureau frequently engages in consumer facing events to promote the availability and accessibility of CT Grown farms and farm products. Events included:
 - Woodstock Fair (September 2021)
 - Celebrating Agriculture (September 2021)
 - Farm Aid, Hartford, CT (September 2021)
 - CT Building at Big E (September 2021)
 - Agriculture Day at the Armory (March 2022)
- Consumer-Focused Marketing Efforts:
 - Phase 1 of CT Grown marketing campaign concluded December 2021. To date the initiative accomplished:
 - 47,000 pageviews on first consumer website, www.CTGrown.org.
 - Integrated CT Grown into CTVisit.com website
 - Completed first photo/video pantry, fully the property of the Department and shared with participating producers at no cost to support their needs.
 - Delivered 112 MILLION impressions
 - Grew social media channels – 2,191 new Facebook followers and 1,666 new Instagram followers
 - More than 44,000 posts using tagged with #CTgrown
 - Issued first consumer email blasts – 640,000 total with 12,557 clicks
 - 3,728 Mailchimp subscribers with 34.47% average open rate
 - Launched phase two of CT Grown marketing campaign with selection of a state approved media marketing agency to continue the work undertaken during phase one with the intention of increasing purchases of Connecticut Grown farm products, farmer endorsement of the campaign, and sustainability into the future to continue marketing efforts.



2021 Highlights | Total Marketing

- Total media impressions (not including CTVisit) : 112,185,857+



RESOURCE CONSERVATION UNIT

Agriculture is one of Connecticut's most vital economic sectors, and at its heart is the state's extraordinary prime and important farmland. The Department of Agriculture preserves working farmlands by acquiring development rights to agricultural properties through its Farmland Preservation Program, ensuring that the land remains available only for agricultural use in perpetuity. In addition to the Farmland Preservation Program, the Resource Conservation Unit is also involved with:

- Community Farms Preservation Program
- Stewardship of Perpetual Agricultural Easements
- Connecticut FarmLink Program
- Farmland Restoration Grant Program
- Agricultural Permits on State-Owned Farmlands
- Review of PV Solar Development on Farmlands
- Connecticut Soil & Water Conservation Council
- Inter-Agency Drought Advisory Group

The main objective of the Farmland Preservation Program is to maintain a farmland resource base, consisting mainly of prime and important farmland soils that will ensure local availability of fresh farm products and help agriculture remain as an important part of the state's economy.

As of June 30, 2022, the program has preserved 47, 611 acres on 403 farms since 1980. The long-term goal is to preserve 130,000 acres, with at least 85,000 of prime, statewide, or locally-important farmland soils.

- Acquired the permanent development rights on 16 farms totaling 1,432 acres at a total cost of \$9,411,646, while leveraging \$3.9 million in federal USDA Agricultural Land Easement funds and \$1.4 million in municipal cost-sharing (57% cost share), bringing the Farmland Preservation Program's total to 403 protected farms covering 47,611 acres.
- Managed and made restoration improvements for 10 agricultural use permits on state-owned farmland which include dairy, hay, diversified vegetables, and small fruit production.
- Entered into 25 new purchase-of-development rights (PDR) offer agreements to preserve approximately 1,700 acres, encumbering \$6.7 million.
- Advanced an additional 29 other PDR projects, totaling approximately 1,930 acres at an estimated \$11.4 million in preservation costs.
- Successfully secured \$3.7 million in additional federal fiscal year 2022 USDA NRCS obligated funds with Agricultural Lands Easement (ALE) Agreements for 13 PDR projects protecting 810 acres
- Continued advancing partnerships with 12 municipalities, on a total of 26 ongoing joint farmland preservation projects. These partnerships occur in all eight counties, in rural, suburban and urbanized areas, including Bolton, Easton, Ellington, Lebanon, New Milford, Rocky Hill, Salisbury, Southington, Simsbury, Stonington, Suffield, and Woodstock.
- Also collaborated with multiple land conservation trusts on ongoing farmland preservation project partnerships, including the Bolton Land Trust, Bridgewater Land Trust, Cheshire Land Trust, Connecticut Farmland Trust, Northwest Connecticut Land Conservancy (formerly Weantinoge Heritage Land Trust), Southbury Land Trust, and Winchester Land Trust.
- Increased PDR farm stewardship, conducting onsite monitoring and reporting for all PDR farmland properties prior to the end of fiscal year 2022.
- 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 96, representing more than half of the state's 169 towns.

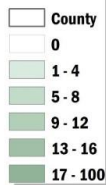
- Provided over \$347,188 in matching grant funding through the Farmland Restoration Grant to 23 projects with \$660,500 in total project costs, to bring more than 135 acres back into active agricultural production, for a total of 344 applications with an estimated 3,080 acres restored since the program's 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. Hosted two virtual "Farmlink Mixers" facilitating contact and relationships between farmland owners and farmland seekers. Continued providing technical assistance on evaluating suitability of farmland property, lease or sale agreements, and farmland succession planning. Continued to update and provide an extensive list of resources on the CTFarmlink.org web page. There were over 50 farmland owner profiles created or updated (90 total on the site). There are currently over 340 farmland seeker profiles on the web site.

Protected Farms: CT Farmland Preservation Program and Connecticut Farmland Trust

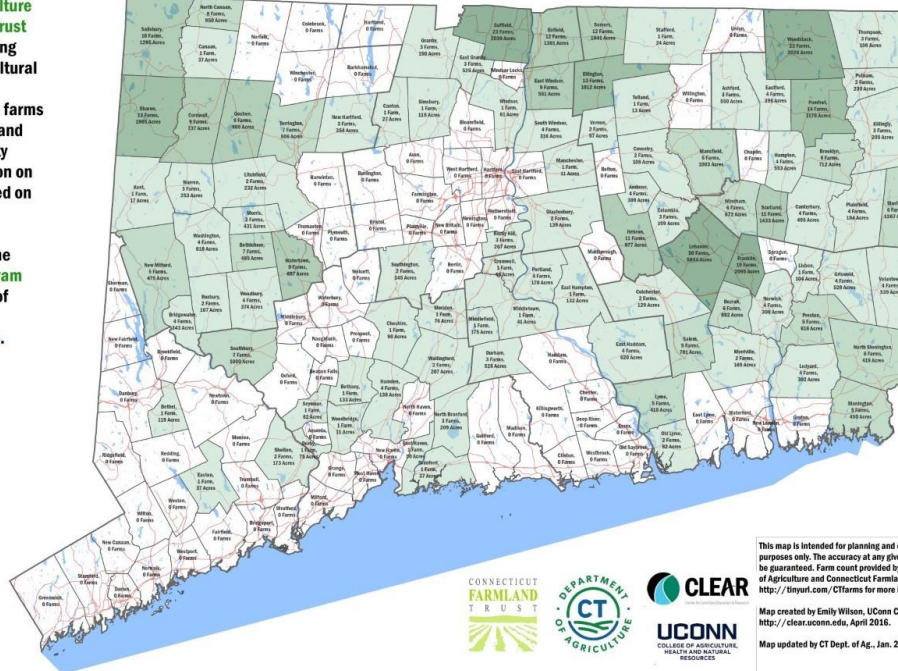
446 Farms and 50,145 acres
as of January 2022

The CT Department of Agriculture and Connecticut Farmland Trust preserve 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 page on the CT Department of Agriculture's website <http://tinyurl.com/CTfarms>.
Legend



Many farms are in more than one town and are counted in each.



This map is intended for planning and educational purposes only. The accuracy at any given location cannot be guaranteed. Farm count provided by the CT Department of Agriculture and Connecticut Farmland Trust. Visit <http://tinyurl.com/CTfarms> for more information.
Map created by Emily Wilson, UConn CLEAR, <http://clear.uconn.edu>, April 2016.
Map updated by CT Dept. of Ag., Jan. 2022

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 into five operational 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 and Animal Population Control Program. Although each unit has separate and distinct responsibilities, certain situations and conditions necessitate collaboration and cooperation between staff of the various units.

The Bureau continues to secure non-state funding to enhance and support programmatic activities. 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 Animal Feed Regulatory Program 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 administered the Department's Agricultural Sustainability Grants program pursuant to the provisions of Public Act No. 09-229. During the course of FY 2022, Agricultural Sustainability Grants totaled \$ 7,712,849.79, and were issued proportionally based on milk production to seventy-four eligible dairy farms, based on the quarterly cost of production calculated by the University of Connecticut.

HEMP PROGRAM

On May 9, 2019, the Department of Agriculture launched a hemp program that was unanimously supported by the General Assembly and the Governor. Changes to the statute CGS 22-611 were signed into law on October 2, 2020, (effective October 31, 2020) amending our hemp law to conform to federal regulatory requirements issued by the United States Department of Agriculture (USDA).

Since the enactment on May 9, 2019 of Public Act No. 19-3, An Act Concerning A Pilot Program for Hemp Production, the Department has experienced continued participation from the hemp agricultural community within the state. In its administration of the Program, the Bureau conducts a thorough review of each producer license application for compliance with requirements prior to the issuance of a license; on-site inspections; sampling for submission for laboratory analysis; and laboratory test result review to ensure that THC levels are within allowable limits.

Current Status

- 76 active hemp producers
- 99 acres and 311,00 square feet registered to grow hemp

On March 22, 2021, USDA issued their Final Rules for hemp production, which necessitated additional revisions to Sec. 22-611 of the Connecticut General Statutes. During the 2021 legislative session, revisions were made to allow remediation of noncompliant crops done in accordance with federal law as an alternative to disposal, specifications on federal controlled substance felonies and licensure criteria, and the addition of the requirement for hemp producer licensees to submit their employee identification number (EIN) or social security number to the state Department of Agriculture. These revisions were supported unanimously in the legislature and incorporated into the state's program.

DAIRY UNIT

- Collected and analyzed 1050 samples of processed/manufactured milk, milk products and cheese, 250 samples of raw milk for pasteurization and 160 samples of retail raw milk to ensure compliance with state and federal milk safety regulations and detect the presence of animal drug residues. The retail raw milk samples are also tested for the presence of human pathogens. Staff collected 90 water samples for testing from dairy production and processing facilities and 25 milk samples for vitamin analysis.
- Conducted 150 routine Grade A Dairy Farm inspections, 40 Retail Raw Milk Farm inspections, 75 routine Milk/ Cheese Plant inspections, 80 Pasteurizer Equipment tests, 45 Bulk Milk Tanker inspections, evaluated 20 milk plant samplers, evaluated 30 milk hauler samplers, conducted 140 Special inspections of dairy producers and manufacturers (inspection or quality violation follow-up), 2 Milk Plant listing audits, 3 Farm bulk tank unit (BTU) audits.
- Orders/Warnings issued: Twelve (12) stop sale orders to milk producers and milk processors for product quality violations; Twenty-three (23) warning letters were issued for violations of milk quality standards or inspectional standards.

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; to meet animal disease program surveillance goals; to assist in animal disease investigations; and to provide test data to support disease-free status certifications such as the National Poultry Improvement Plan (NPIP). State animal health surveillance information is coordinated by the State Veterinarian and shared with USDA, APHIS, Veterinary Services 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:

- Livestock and Equine Interstate Movement - processed 3,373 Interstate Certificates of Veterinary Inspection for livestock and equine animals moving into and out of this state.
- Issued 302 livestock import permits representing 3179 animals imported into Connecticut.
- Gathered and Submitted 1161 Brucellosis samples. 22 Bovine farms, 2 Caprine farms and 27 Porcine Farms to CVMDL.
- Gathered and submitted Porcine Pseudorabies samples from 27 porcine farms resulting in 219 samples to CVMDL
- Brucellosis vaccination certificates were issued for 364 cattle.
- Tuberculosis tests for cattle and goats totaled 2337.
- Issued 1691 poultry import permits representing 5,036,263 domestic poultry, upland gamebirds and pet birds imported into this state.
- Official Animal Identification devices issued (pursuant to USDA Animal Disease Traceability Rule): 3093 RFID (radio frequency identification devices), 900 NUES (metal) ear tags issued directly to CT licensed livestock producers and licensed, accredited, category II veterinarians.
- Equine Infectious Anemia (EIA) Tests - processed 992

FOOD SAFETY & AGRICULTURAL COMMODITIES UNIT

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

The Produce Safety team completed year one of five in the second cooperative agreement with the U.S. Food and Drug Administration (FDA). Year one activities included inspecting fruit and vegetable growers, implementing the farm registration and mobile inspection systems, and training new staff members while maintaining and focusing on our project plan. The registration process was streamlined by utilizing the state's E-license system. Currently, over 200 fruit and vegetable farms in Connecticut have registered through the state's E-License system which is also linked to the newly developed mobile inspection program. This number will continue to grow as we promote this program and continue to work with the state's fruit and vegetable growers. Currently, all farms in Connecticut with over \$25,000 in produce sales are subject to provisions of the federal Produce Safety Rule adopted by the Connecticut Department of Agriculture (DoAg). Year one did not reveal any egregious conditions. In addition to inspections, DoAg provides funding to the University of Connecticut Cooperative Extension through a Memorandum of Understanding to educate the state's farmers providing the nationally accredited Produce Safety Alliance Grower Training Course. In 2021, 9 industry stakeholders took part in this course. Additionally, DoAg is planning on continuing the partnership with FDA and work on the fruit and grower inspection program.

Produce Safety Inspections

- 207 registered fruit and vegetable growers
- 7 inspections

Animal Feed Regulatory Program Standards (AFRPS)

In March of 2021, the 11 Animal Feed Regulatory Program Standards (AFRPS) achieved full implementation status after the FDA 60-month audit. The Agricultural Commodities team continues to update and maintain AFRPS while regulating the animal feed industry in Connecticut. The Current Good Manufacturing Practices (cGMP) Inspection for animal feed manufacturing facilities has been streamlined by using the MiCorp mobile inspection program.

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.

Agricultural Commodities

Sample collection for analysis by the Connecticut Agricultural Experiment Station

- 333 - seed samples
- 358 - animal feed samples
- 35 -fertilizer samples
- 6 - biosolid samples

Products Registered

- 15,636 Commercial animal feeds, including pet foods
- 4,776 Fertilizers
- 1,102 Soil Amendments
- 128 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 (producers with less than 3000 birds)

- 1 Registered producers
- 2 Inspections

Controlled Atmosphere Facility Storage (apples)

- 3 registered facilities
- 120 inspections
- 5 certifications

FDA Contract Inspections

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

Animal Feed Good Manufacturing Practice (cGMP) Inspections

- 3 inspections

STATE ANIMAL CONTROL UNIT

During the FY22, the State Animal Control Unit is comprised of 7 sworn State Animal Control Officers (SACO) (1 supervisor and 6 SACO's). The unit is tasked with performing routine and spot inspections of Department of Agriculture licensed and regulated facilities. These facilities are comprised of Commercial Kennels, Grooming Facilities, Pet Shop Facilities, Dog Training Facilities, Animal Shelter Facilities, Animal Importers and Municipal dog pounds. The unit is also responsible for conducting criminal investigations pertaining to animal cruelty. The state is broken down into six territories, each officer is assigned a territory of the state that encompass anywhere from 25-30 towns, and each officer resides in the area they are assigned.

During this fiscal year, the unit has conducted 556 formal investigations, which are defined as incidents that require being documented on a formal report form in the e-License investigative report module. The unit handled 3,754 miscellaneous calls for service/complaints, 4 livestock damage claims, issued 64 written warnings, 17 infractions, 0 misdemeanor summons, and had 3 arrests.

There were 56 reports received from DCF reporting to the Department of Agriculture, reporting the Suspected Animal Harm, Neglect or Cruel Treatment. There were 153 suspected animal abuse reports received from various ACO's from all over Connecticut that were forwarded by DoAg to DCF under the current cross reporting statutes.

The unit conducted inspections of municipal dog pounds (87 inspections), pet shops (81), pet grooming facilities (409), commercial kennels (208), dog training facilities (143), and processed 43 rabies cases where humans or domestic animals were exposed to a rabid animal.

The Department of Agriculture continues to conduct the ACO Academy, an annual instructional training program, for animal control officers. 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. Due to the pandemic, the majority of the class was held virtually in both 2020 and 2021.

Approximately 26 municipal animal control officers received certificates of completion in the 2021 class. 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. Most of the agency's licenses and permits are exclusively online, increasing productivity for office staff and convenience for the general public. The agency has eliminated paper renewals and certificates for all licenses, saving over \$11,000.00 in postage, which not only helps the environment but also speeds up the process. Total licensing fees collected for FY22 were \$2,137,924.41 of which 83% of the payments were made online.

DoAg Licenses for FY22

Credential Type	Active, and In-Renewal
ANIMAL CONTROL OFFICER	259
ANIMAL IMPORTER	220
ANIMAL SHELTER FACILITY	15
BULK MILK TANKER	17
CERVIDAE HERDS	12
COMMERCIAL ANIMAL FEED MANUFACTURER	47
CHEESE MANUFACTURER	20
COMMERCIAL KENNEL	270
COMMERCIAL FEED	631
COMMERCIAL FERTILIZER	366
COMMISSION SALES STABLE	1
CONNECTICUT FARM WINERY, BREWERY AND CIDERY	13
CT GROWN MANUFACTURER FOR ALCOHOLIC LIQUOR	8
EGG GRADING PLANT	5
EQUINE AUCTION	1
GROOMING FACILITY	451
FRUIT & VEGETABLE GROWER	185
HEMP PRODUCER	76
LIMING MATERIALS	33
LIVE POULTRY DEALER	79
LIVESTOCK DEALER/BROKER	32
MAPLE SYRUP & HONEY PRODUCER	42
MILK DEALER	108
MILK EXAMINER	158
MILK LABORATORY	9
MILK PRODUCER	92
MILK SUB-DEALER	105
PET SHOP	87

POULTRY MORTALITY DISPOSAL	3
POULTRY SLAUGHTER FACILITY	1
RAW MILK CHEESE MANUFACTURER	5
RETAIL DAIRY STORE	2788
RETAIL RAW MILK PRODUCER	12
SOIL AMENDMENTS	280
SEED LABELER	112
SWINE GARBAGE FEEDER	3
SWINE GROWERS	28
TRAINING FACILITY	163
TOTAL	6555

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.

In Fiscal Year 2022, the APCP provided vouchers for 3,447 animals (1,210 dogs and 2,237 cats) from municipal impound facilities, pets owned by low-income CT residents and feral cats from non-profit organizations. 2,159 of the 3,447 vouchers issued were redeemed for a 63% overall sterilization rate for intact dogs and cats adopted from municipal impound facilities, issued to low-income residents and awarded to non-profit feral cat groups cats from non-profit organizations.

BUREAU OF AQUACULTURE

The Department's Bureau of Aquaculture (DABA) 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 safety of shellfish (oysters, clams, mussels and roe-on scallops) moving in interstate commerce and the uniformity of state shellfish programs. The NSSP model ordinance (NSSP-MO) is the regulatory guidance document that outlines the requirements that every shellfish program must meet to maintain compliance. 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 the 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; and informs all interested parties of recent developments in shellfish sanitation and other major issues of concern through 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 policymaking at the national level (Aquaculture, Cleansing Study, Growing Area Classification, Restoration, Shellstock Identification, Traceability, Recall Guidance, Vibrio Research, Vibrio Illness Response, Laboratory).

BUREAU OF AQUACULTURE ACCOMPLISHMENTS

- Staff performed sanitary and record 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.
- Began production and distribution of Harvester Books, streamlining the recordkeeping process for harvesters through the assembly of all the necessary forms.
- Identified nine harvesters eligible for a SeaGrant opportunity to receive small refrigeration units to promote direct marketing capability, by providing consistent and portable means of temperature control that is typically cost prohibitive.
- Added two new shellfish harvesters as Shellstock Shippers.
- Collected and analyzed 5,139 seawater samples and 152 shellfish tissue samples for fecal coliform bacteria to classify and reopen shellfish growing areas, and 15 meat samples for MSC (male-specific coliphage) to assess viral impacts.
- Developed and enacted comprehensive harmful algal bloom (HAB) and biotoxin monitoring programs, as the only state agency extensively monitoring HAB and biotoxin presence in real-time for regulatory response. This required 234 phytoplankton samples for harmful algal bloom cell concentrations, 6 samples for paralytic shellfish poisoning (PSP), 6 samples for amnesic shellfish poisoning (ASP), and 10 samples for toxin surveillance including marine and freshwater (cyanobacteria) toxins were analyzed. The Bureau continues to monitor commercial and recreational growing areas to protect consumers, develop a broad HAB and biotoxin monitoring dataset, and respond to emerging threats.

- Continued working with Ideal Fish, Connecticut's first indoor finfish recirculating aquaculture system 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 multi-million-dollar operation is producing sustainably raised Branzino (European Seabass), Salmon, and Rainbow Trout for wholesale and retail outlets.
- Vessel Monitoring System (VMS) has been installed on 141 vessels operating under seed transplant licenses or the Combined Harvest and Relay Shellstock Shipper 1 license. The VMS system is integrated into the GIS mapping data layer along with the shellfish licenses, enabling the Bureau to observe the activities of each shellfish vessel in real-time and capturing historical movement data. VMS has been crucial in aiding the Bureau with meeting NSSP compliance requirements.
- Continued progress with property maintenance and replacement of water sampling vessels:
 - \$277,000 bond appropriation to hire engineering consultants to design and estimate cost of repairing bulkhead, installing a floating ramp and dock, boat lift, above ground sealed container fuel storage, and emergency power generation.
 - Replaced two vintage era 1992 vessels with a 2018 23-foot Parker cabin vessel (August 2021) and a 2008 25-foot Parker cabin vessel (August 2020)

LICENSING

The Bureau issued 150 Personal Seed Oyster Licenses and 54 Oyster Seed Boat Licenses.

- Implementation of e-License:
 - The Bureau successfully transitioned Finfish Aquaculture and Shellstock Shipper III applicants to e-Licensing.
 - E-License certificates of Finfish Aquaculture were issued to nine entities, including inland finfish aquaculture, finfish grown in stocking ponds, and vocational schools.
 - Shellstock Shipper III e-License certificates were issued to 25 Shellfish wholesale dealers.
 - The Seaweed Producer and Oyster Seed Seller/Transplanter licenses are currently under development in e-License for implementation in time for the 2022 licensing period. Subsequently, the Bureau will develop the Shellstock Shipper I and Scientific Research licenses in e-License. E-License has and will continue to streamline the licensing and accounting responsibilities of the Bureau.

2021-22 COVID RESPONSE ACTIONS

NOAA CFAP Round Two Fall 2021

The Consolidated Appropriations Act, signed into law on December 27, 2021, authorized the U.S. Secretary of Commerce to provide an additional \$255 million of economic assistance to marine fishery participants via aid programs previously authorized by the CARES Act, essentially providing a “second round” of CAAFP aid to states, Tribes, and territories. On March 29, 2021, Connecticut was notified that its allocation of second round CAAFP aid funding was \$3,000,000.

CAAFP aid applicants must participate in the commercial fishing, for-hire fishing, seafood dealing, or aquaculture sectors, and have suffered at least a 35% loss in revenue as compared to the prior 5-year average (2015-19).

The disbursement was contingent upon approval of a “spend plan” by the National Oceanic and Atmospheric Administration (NOAA). The Connecticut Department of Energy and Environmental Protection (DEEP) and Connecticut Department of Agriculture (DOAG) proposed to distribute the CT CAAFP aid funds to qualified applicants who participate in eligible marine fishery sectors. The spend plan was approved by NOAA.

The NOAA CFAP Round 2 payment program allocated a quarter of the federal assistance to the Aquaculture sector and 18 participants were paid a total of \$ 500,000.00 in direct loss payments.

NOAA Aquaculture Infrastructure Spend Plan

The Department of Agriculture submitted an aquaculture infrastructure investment spend plan to NOAA for \$250,000.00 titled, “Reclamation of Public Natural Oyster Seed Beds,” which received approval. Funding allocated to the Aquaculture sector was dedicated to enhancement and rehabilitation work on State designated natural beds through use of Aquaculture Industry members and their vessels.

- Contracting with industry members to remove silt using open oyster or hydraulic clam dredges:13 companies participated for a total 1,041 hours and payments totaling \$120,991.00
- Following rehabilitation cultivation, purchasing mature, oversized oysters to place on these Natural beds for the purpose of spawning. Six companies provided 41,000 oysters at \$16,376.00, which were planted on the Bridgeport/Stratford and the Fish Island, Norwalk, Natural oyster seed beds.

This investment in the infrastructure of the natural seed oyster public beds through contracted activities of the shellfish industry members is a known and proven best management practice. This practice is reflective of large private company infrastructure investments in areas like the Quinnipiac River, resulting in high annual seed oyster production.

The balance of \$112,633.00 remains for further aquaculture investment pending a NOAA approved spend plan for the spring 2023.

State ARPA Shellfish Pandemic Loss Payments

The Department of Agriculture was allocated **\$3,250,000.00** to offset remaining 2020 pandemic revenue losses in comparison in the aquaculture industry compared to the previous five-year period. The Bureau developed a loss spreadsheet which subtracted the previous pandemic assistance (the NOAA CFAP round 1, USDA CARES Payment, CFAP Round 1 holdover payment, and CFAP NOAA Round 2 payments) from the remaining revenue loss for 19 shellfish operations. The combined remaining revenue loss was \$7 million dollars. In order to maximize financial relief to industry, a cap of \$750,000 was utilized to maximize payments to 18 companies, exclusive of the largest grower. The remaining loss across 45 industry members dropped below \$2 million.

Four Phase Implementation of the COVID-19 Response and Assistance Initiative

The Department of Agriculture Bureau of Aquaculture and Laboratory, with collaborating partner Connecticut Sea Grant (CTSG) at UCONN’s Avery Point, continued implementing a three-phased shellfish Industry COVID-19 Response and Assistance Initiative to enhance and rehabilitate the public natural seed oyster beds.

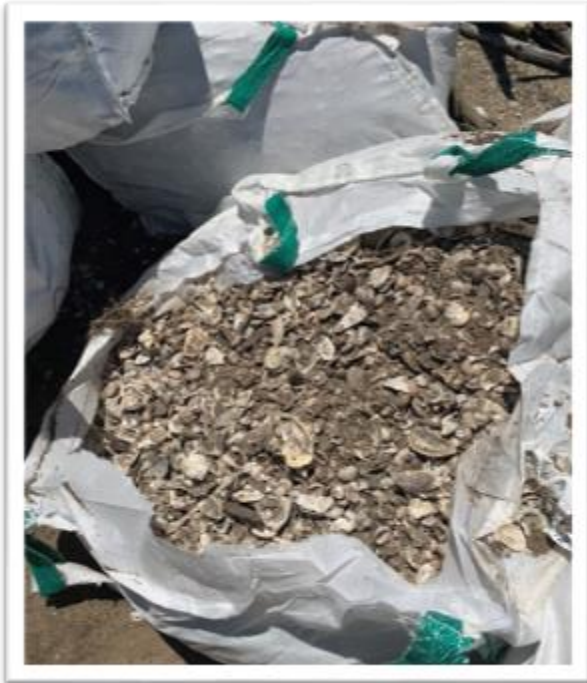
- Phase 1– Eight companies to facilitate rehabilitation work on approximately 600 acres of shellfish beds located in the coastal waters of Darien, Norwalk, Bridgeport, Stratford. Compensation included the harvest, transplant, depuration and sale of northern quahogs.
- Phase 2 - Purchased 3,668 bushels of shell from Industry and planted on the Bridgeport and Stratford natural bed. Compensation totaled \$13,500.00.



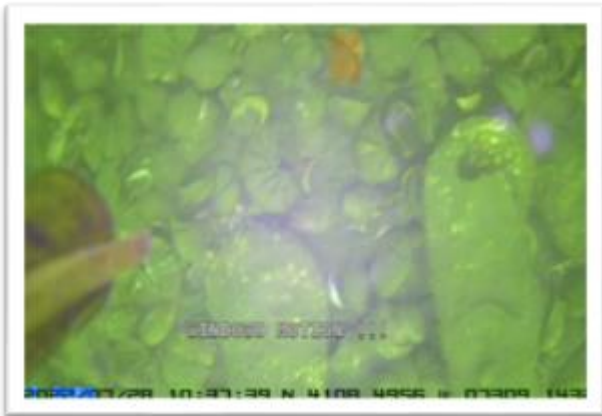
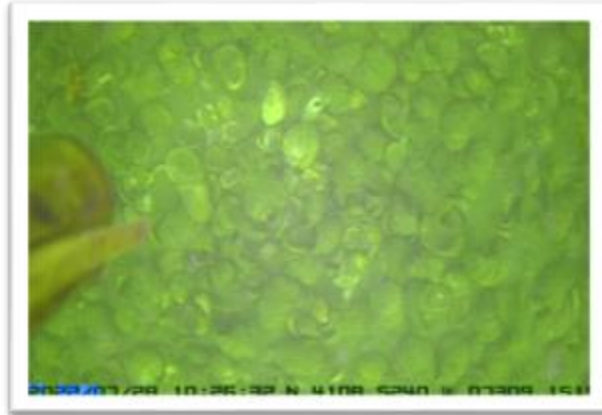
- Phase 3 – To facilitate the purchase and planting of broodstock oysters on up to three acres of shellfish beds in the coastal waters of Darien, Norwalk, Bridgeport, and Stratford. Compensation was cash payments for oversized Eastern oysters, totaling \$24,282.00.
- Phase 4 - Work collaboratively with CTSG and NOAA to determine optimum stocking densities of shell and mature oysters to influence future restoration projects on the Connecticut natural beds.

For more than a century, Connecticut's natural oyster beds have sustained the state's aquaculture industry, which relies upon them as a source of seed. With a license, individuals can harvest small oysters and plant them on their farms. The state enforces strict regulations to ensure that the beds continue to thrive. These include the size and quantity of oysters, as well as the harvest location and time of year. Unfortunately, shellfish beds can be negatively impacted by natural events like storms and silt traveling down rivers and across estuaries, which can smother the oysters and shell surfaces where new baby oysters settle and begin to grow. From time to time, the state has invested in rehabilitating the natural beds by planting clean shell and mature oysters with some success. However, state environmental agency managers are seeking a cost-effective and efficient restoration strategy to maximize oyster production on the natural beds. With funding from the National Sea Grant Program, scientists and environmental agencies will investigate how varying stocking densities of shell and oysters affect oyster recruitment. This research plot project again involves Connecticut Sea Grant, the CT Department of Agriculture, Bureau of Aquaculture, the NOAA Northeast Fishery Science Center Milford Aquaculture Laboratory, and field support of shellfish industry members. It is anticipated that this research will help inform future restoration efforts in terms of optimum stocking densities of shell and mature oysters.

Staff obtained permission from the Hammonasset State Park to collect 1,600 bushels of oyster shell that the park had reclaimed from the Housatonic River dredged sand via their beach enhancement project. The bagged shell was divided equally between the Branford Initiative project and a SeaGrant, NOAA, and DOAG oyster recruitment research project on the Bridgeport/Stratford Natural bed. 800 bushels of oyster shell and 40,000 large oysters were planted on the research plot.

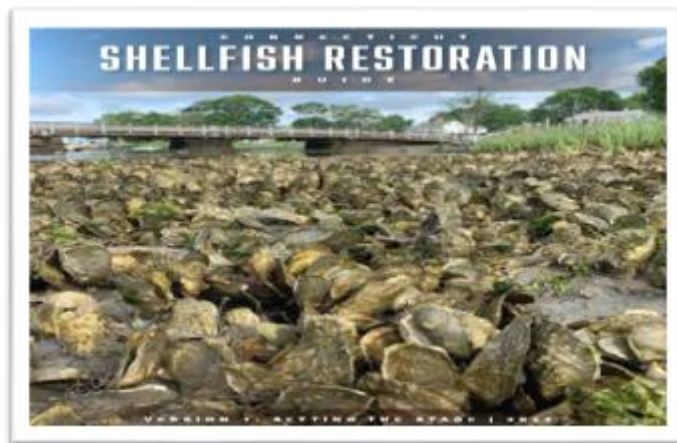


The project partners will work collaboratively to collect video footage and field survey data to demonstrate the results and significance of different stocking densities. Freshly laid shell and mature (broodstock) oysters will encourage spat settlement on the natural bed, demonstrating the direct impact of planting shell and spawning oysters on oyster recruitment.



CONNECTICUT SHELLFISH RESTORATION PLANNING WORKGROUP

A USDA NRCS Conservation Innovation Grant (CIG) called the *Conservation, Management, and Restoration Priorities and Practices for Connecticut Shellfish* was awarded to Connecticut Sea Grant. The workgroup completed a comprehensive shellfish conservation, management, and restoration plan to address barriers and recommend high priority projects and practices for funding (such as the USDA NRCS EQIP) in Connecticut. [CTSRG June9.pdf \(uconn.edu\)](#)



The comprehensive plan reviews the development of regulatory guidance, habitat suitability analysis, and released the web-based mapping tool [Connecticut Shellfish Restoration Story Map \(arcgis.com\)](#).

Shellfish restoration will continue to have beneficial impacts on the shellfish industry, as enhancing natural recruitment will provide additional oysters and clams for commercial and recreational harvest, preserving this resource for future generations.

Commissioner Hurlburt recognized the significance of shellfish restoration and the comprehensive plan, “Connecticut’s natural shellfish habitats are critical to the Long Island Sound environment and to sustaining the state’s aquaculture sector, spanning more than 17,000 acres and contributing to a shellfish harvest valued at more than \$23 million dollars.”

SHELLFISH GROWING AREA PROGRAM

- Increased the rainfall closure trigger for the Groton Conditionally Approved shellfish areas (P, E, and C) from 1.0” to 1.5”. Bureau staff also completed field work for the Stonington shoreline survey, which had been delayed due to Covid-19. The Bureau has been able to maintain minimum NSSP sampling requirements in all growing areas.
- The Bureau’s Supervisory Environmental Analyst successfully completed FD242, Advanced sanitary Survey of Shellfish Growing Areas Course. This course is designed for senior shellfish growing area staff members who make classification and status determinations of the shellfish growing areas for their state programs. Advanced topics covered included statistical and management tools, Advanced Shoreline Survey methods, WWTP Evaluation and Questionnaire, Conditional Area Management Plans, Sampling and Study Design, Data Analysis, Advanced Volumetric Dilution, Drogue and Dye Studies, and GIS (RAFT-MAP).
- Staff completed FDA training for Real-Time Application for Tracking and Mapping (RAFT-MAP). RAFT-Map is a program that utilizes GIS and growing area data to model WPCF performance for growing area assessments, assess impacts from pollution points and water bodies impacting growing areas, and in field marina & mooring area assessments.

IN PROGRESS AND UPCOMING PROJECTS

- The Bureau is continuing to work toward transitioning the state’s commercial shellfish harvesters to an electronic landing reporting system to conform with the NSSP requirements for landings reporting. Currently, harvesters are using handwritten logs for reporting. The Bureau intends to implement electronic reporting via the SAFIS system application, which will allow harvesters to submit daily landings via smartphone or tablet. In the future, this will reduce and streamline industry paperwork and recordkeeping requirements and eliminate Bureau staff time devoted to this data entry.
- The Department of Agriculture purchased a DJI Mavic 2 Enterprise Advanced Drone with thermal imaging for the Bureau of Aquaculture. Staff members are working toward acquiring a remote pilot’s license. The Bureau intends to use the drone for accessing remote areas for shoreline survey work and has plans to expand its usage to HAB monitoring and surveillance and to enhance the accuracy of marina and mooring area surveys, all of which are critical to meet NSSP-MO requirements.
- The Bureau is in discussion with the State’s CTAlert 911 Everbridge Program Manager to enroll in the state-wide notification system to enact emergency closures for shellfish area. This robocall/text system is free of charge. Currently, Bureau staff spends approximately 30 minutes to over an hour making individual calls to harvesters during shellfish area closures following rainfall events and subsequent reopenings following acceptable laboratory results. Transitioning to this notification system will reduce closure and reopening time frames, freeing up staff to conduct other necessary work like sanitary surveys, routine water quality sample collections, data analysis, and report writing.
- The Bureau is required to assess the potential public health impacts of all marinas and mooring areas on shellfish growing areas statewide. In 2020, the DABA began a partnership with the CT

DEEP Boating Division that will incorporate the DEEP's Federal Clean Vessel Act (CVA) pumpout data and outreach and education efforts to support the Bureau's assessments. The DEEP is required, through the CVA, to collect and summarize vessel sewage pumpout logs on an area-by-area basis, as well as conduct education and outreach activities. The DEEP Boating Division is now sharing these logs with the Bureau as they become available, providing the Bureau with access to detailed information about the amount of sewage that has been diverted from entering the waters of Long Island Sound. This documentation will be incorporated into the DABA mooring area assessments. These assessments, along with recent changes to the NSSP-MO, may allow the opening of grounds, once off limits, for commercial and recreational shellfishing in Connecticut waters.

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 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 and harbor management commissions. The Bureau leads the Work Group coordination of the regulatory review process through the Guide to Marine Aquaculture Permitting with other local, state and federal agencies depending on the nature of the proposed aquaculture activity.

AQUACULTURE CERTIFICATES

- Connecticut has a wide diversity of aquaculture operation types, including 29 active individuals/companies/educational facilities with Aquaculture Certificates and the necessary permits for shellfish culture using upwellers, downwellers, set tanks, floating bags, longlines, bottom cages, and bottom netting. There are also certificates and permits for four shellfish hatcheries.
- In FY 2021 seven Aquaculture Certificates were issued by the Bureau to companies/individuals for shellfish. The seven applicants are using a variety of aquaculture methods:
 - 8 upwellers
 - 6 downwellers for the town of Fairfield
 - 75 bottom nets for hard clams
 - Individual cages with GoPro cameras for a NOAA/NMFS research project
 - 600 floating/sinking bags for oysters
 - 30 bottom cages for oysters
 - (5) 200' longlines for floating oyster bags
- In FY 2021 there were ten active individuals/companies with kelp Aquaculture Certificates and the necessary gear permits and one kelp hatchery. Six individual producers were licensed by the Bureau to harvest and sell kelp.
 - There was one application for a new company to use an already established kelp site for seven 500' longlines of kelp.
 - Two Aquaculture Certificates were issued for kelp farms that had applied in 2020 and 2021. The kelp applications were for five 310' longlines and six 600' longlines, respectively.
- The Bureau continues working with Ideal Fish to develop a direct marketing and farm market campaign for its products. Ideal Fish is the first indoor finfish Aquaculture facility permitted in Connecticut and is the only commercial scale facility of its kind in the Northeast. The state-of-the-art multi-million-dollar operation is producing sustainably raised Branzino (European Seabass), Salmon and Rainbow Trout. Ideal Fish is a recirculating aquaculture system company dedicated to bringing fresh seafood to local markets.

- 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. In FY 2021 the Bureau successfully transitioned finfish applicants to e-Licensing. Nine Certificates of Aquaculture for Fish were issued in 2021.

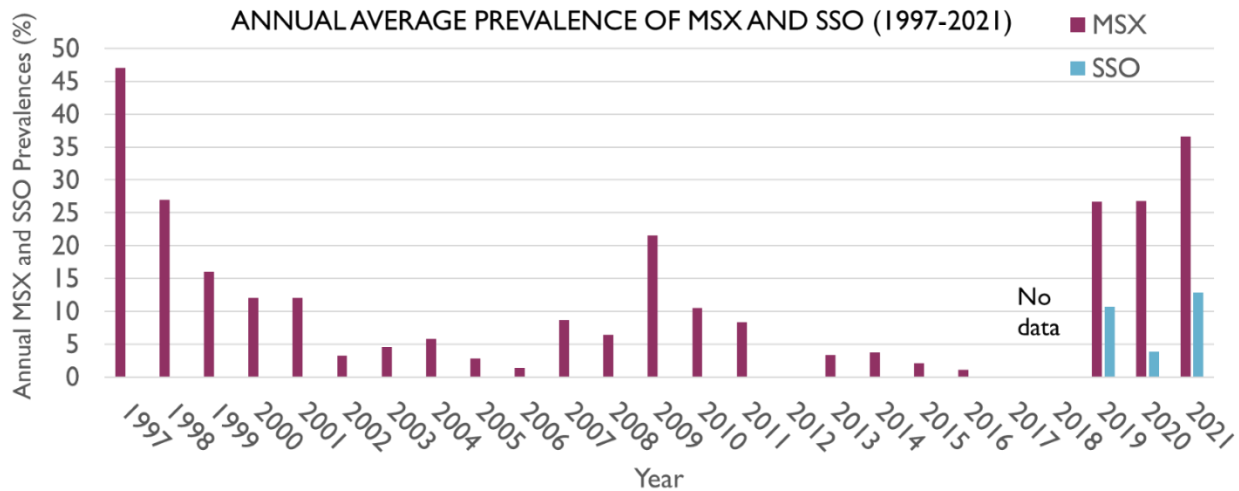
MONITORING SHELLFISH DISEASES STATEWIDE

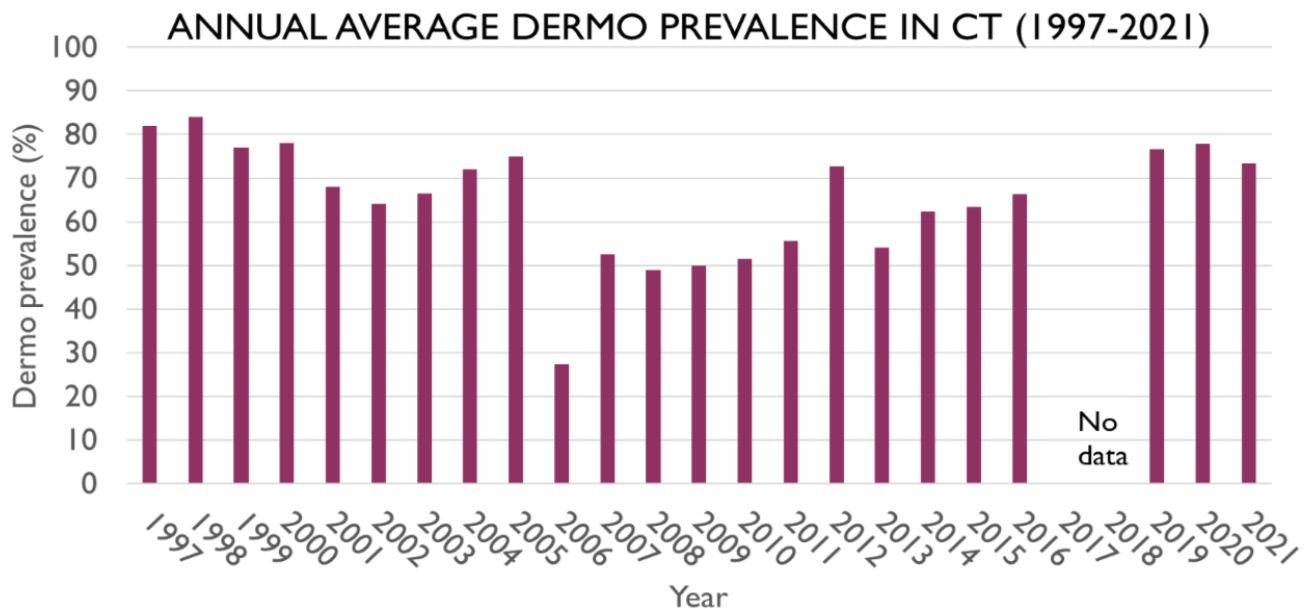
Shellfish are susceptible to a variety of diseases, some of which can cause epizootic outbreaks that result in widespread mortality events. In 1997, Connecticut experienced an epizootic event from Multinucleated Sphere Unknown (MSX), which significantly reduced oyster populations statewide and consequently negatively impacted shellfish aquaculture operations. Through effective disease management by the state shellfish pathologist and partner agencies, oysters in Connecticut began to recover by 2004 as populations developed natural disease resistance to MSX and disease-resistant strains were developed. Read more about shellfish diseases on the Bureau’s webpage:

<https://portal.ct.gov/DOAG/Aquaculture1/Aquaculture/Oyster-and-Clam-Diseases>.

While the Bureau has been working to fill the vacant shellfish pathologist position, staff have secured United States Department of Agriculture (USDA) funding to monitor shellfish disease prevalence and intensity statewide from 2019-2021 through a collaboration with Roger Williams University. The Bureau’s former pathologist visually monitored shellfish disease prevalence and intensity from 1997-2016 using histology. Colleagues at Roger Williams use molecular methods to measure shellfish disease prevalence and intensity through DNA detection, which is a more sensitive method than visual inspection.

The following graphs demonstrate the importance of monitoring three relevant oyster diseases, MSX, SSO, and Dermo. Using the molecular method from 2019-2021, there was an increase in MSX and SSO disease prevalence, compared to visual inspection up until 2016. Given that MSX previously caused an epizootic event in Connecticut, it is important to effectively monitor and respond to potential shellfish disease outbreak before they occur. Dermo remains at a high prevalence statewide.





The Bureau continues to collect statewide disease surveillance data in 2022 and has posted a position for a state shellfish pathologist that can utilize historically relevant methods like histology, as well as newer molecular methods to effectively monitor the health of oyster and clam populations. The pathologist will be responsible for issuing shellfish health certificates for local and imported shellfish, developing disease management strategies, issuing guidance to the shellfish industry, and working with partner agencies.

CONNECTICUT'S *VIBRIO PARAHAEMOLYTICUS* CONTROL PLAN

Vibrio species are naturally occurring estuarine and marine bacteria that are more prevalent during the summer months as the water warms. Some *Vibrio* species are pathogenic to humans and can contaminate seafood including molluscan shellfish. New England, including Connecticut, experienced an unprecedented *Vibrio parahaemolyticus* outbreak in 2013. Connecticut implemented effective *Vibrio parahaemolyticus* Control Plans, including shading, time-temperature requirements, and rapid cooling procedures when the water temperature exceeds 68°F, which have prevented further illness outbreaks since 2013. Read more about *Vibrio parahaemolyticus*

<https://portal.ct.gov/DOAG/Aquaculture1/Aquaculture/Vibrio>

- Connecticut has continued to effectively manage *Vibrio parahaemolyticus* through statewide Control Plans. The 2013 outbreak occurred in the shellfish growing areas of Darien, Norwalk, and Westport; therefore, these areas are managed with a stricter control plan. Prior to 2020, all shellfish harvested had to be cooled to an internal temperature <50°F within 1 hour. Based on 2019 data, the Bureau was able to safely increase the rapid cooling requirement to an internal temperature <50°F within 3 hours, which reduces oyster mortality associated with cold shock without reducing consumer protection. The updated control method has successfully prevented illnesses and unnecessary fisheries losses for the past 3 years.
- Coolers were purchased for nine small shellfish aquaculture companies using SeaGrant funds, supporting small businesses and increasing product safety.
- Despite an increase in *Vibrio vulnificus* wound infections in 2020, as reported by the Connecticut Department of Public Health, the Bureau's statewide *Vibrio parahaemolyticus*

Control Plans have continued to prevent illness outbreaks from other naturally occurring pathogenic *Vibrio* species.

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 2022. In addition, the CT LEO continues to speak with both new farms and new dairy processing plants about becoming an FDA certified Grade A facility.

In addition to the evaluations, the CT LEO organizes proficiency tests for the labs and certifies all the analysts before coming online to perform the procedures, which includes providing written exams and practicals 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 has a total of 65 certified analysts that are evaluated every two years. In 2022, 15 new analysts became certified to process dairy samples in the laboratory so far. The LEO continues to put together split samples that helps measure the efficiency of the CT Dairy Labs. This is a free service provided by the CT LEO and the CT Department of Agriculture. This will be available for all Grade A facilities that are certified for antibiotic screening.

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.

End Report