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Food and Agriculture Sector Annual Report

Fiscal Year 2023

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Overview of Food and Agriculture Sector Goals

The Food and Agriculture (FA) Sector's goals support the Joint National Priorities (JNP), developed in 2014 by the national council structures and described in the *National Infrastructure Protection Plan 2013: Partnering for Critical Infrastructure Security and Resilience (NIPP 2013).* These goals guide and integrate the FA Sector's efforts to improve security and resilience and describe how the FA Sector contributes to national critical infrastructure security and resilience as set forth in Presidential Policy Directive (PPD) 21 – *Critical Infrastructure Security and Resilience*. This directive assigns the United States Department of Agriculture (USDA) and the Department of Health and Human Service (HHS) Food and Drug Administration (FDA) as the Sector Risk Management Agency (SRMA), to lead a collaborative process for critical infrastructure security within the FA sector. In accordance with PPD-21, a sector-specific plan (SSP) was developed, detailing the application of NIPP concepts to the unique characteristics and conditions of the FA sector. The update of the SSP was postponed until the Department of Homeland Security (DHS) and the interagency receives the new NSM-21. FA sector will use the draft NIPP to inform activities but will not update the SSP. Once NSM-21 is published; the FA sector will convene a working group to develop an SSP based on the revised version.

In the FA Sector, critical infrastructure protection is not the responsibility of one department or agency within government, but a partnership effort between all levels of government and private sector owners and operators. Since its establishment, the FA Sector has recognized the value and importance of its partnerships with various levels of government and the private sector. Without these partners, it would not be possible to increase security and resilience within the FA sector. The U.S. public and private components of the FA sector have taken significant steps to reduce sector risk, improve coordination, and strengthen security and resilience capabilities that signal the sector's continued progress toward the 5 goals that guide FA Sector efforts.

The 2015-2019 FA Sector Goals that will remain in place until the completion of a new SPP:

Goal 1	Promote the combined Federal, SLTT, and private sector capabilities to prevent, protect against, mitigate, respond to, and recover from manmade and natural disasters that threaten the national food and agriculture infrastructure
Goal 2	Improve sector situational awareness through enhanced intelligence communications and information sharing among all FA Sector partners
Goal 3	Assess all-hazards risks to the FA Sector, including cybersecurity
Goal 4	Support response and recovery at the FA Sector level
Goal 5	Improve analytical methods to bolster prevention and response efforts, as well as increase resilience in the FA Sector

Following are lists of important achievements and accomplishments for each goal, as reported by our sector partners. Due to the voluntary nature of the reporting, the lists may not reflect all the supporting activities carried out this year.

Goal 1: Promoting the Combined Federal; State, Local, Territorial, and Tribal (SLTT); and Private Sector Capabilities to Prevent, Protect Against, Mitigate, Respond to, and Recover from Manmade and Natural Disasters That Threaten the National Food and Agriculture Infrastructure

This fiscal year saw the implementation of activities and programs by Federal partners to strengthen response and recovery capabilities, within the partner agencies and in the SLTT and private sector. There was a particular focus on efforts related to Animal Disease Outbreak prevention, detection, response, analysis, and recovery. Additionally, the sector conducted several tabletop exercises to test inoperability between federal and SLTT partners in response to Food and Agriculture threats and emergencies. With the release of the Bioeconomy Executive Order (EO) 14081 the sector was involved in shaping this policy and implementation plan.

American Veterinary Medical Association:
o   Launched a Veterinary First Responder Certificate Program, the nation's first standardized training program for veterinary disaster and emergency planning and response. Over the course of FY2022 over 500 veterinarians registered for the certificate program and 35 completed the program. The certificate can be used by state and local veterinary response teams as one method to credential their veterinary team members.

U.S. Department of Agriculture/Animal and Plant Health Inspection Service (USDA/APHIS):
o   Through the American Rescue Plan Act, APHIS has continued to work internally, across the government, and with our many stakeholders to enhance surveillance for SARS-CoV-2, and strengthen our ability for early detection of emerging and zoonotic diseases in animals, through the following ways:

- Provided $56.8 million in funding opportunity awards to advance detection, surveillance, and prevention strategies for SARS-CoV-2 in animals. These funds made grants available to eligible state and federal agencies, academia, tribes/tribal organizations, private organizations or corporations, and individuals.

- Obligated $49.2 million in APHIS-led initiatives to improve our diagnostic capabilities and to better understand the threat SARS-CoV-2 poses to domestic, zoo, and wild animals.

  Collected approximately 30,000 samples from more than 100 species across the United States, it's Territories, and Tribal lands from ongoing SARS-CoV-2 surveillance.

o   FY2023APHIS Wildlife Services (WS) continues to implement a risk-based surveillance system for influenza A in wild waterfowl. The system utilizes observed influenza A prevalence, changes in seasonal waterfowl population density, and data analysis predicting movement of waterfowl among flyways to prioritize surveillance in those watersheds at

greatest risk for influenza A transmission to poultry. Targeted surveillance was collected from all 48 conterminous states and Alaska, representing samples from all four North American flyways.

o APHIS WS has maintained a public facing websites to report detections of Highly Pathogenic Avian Influenza (HPAI) in wild birds, captive wild birds, and mammals to provide situational awareness to SLTT partners and allow further ability to protect, mitigate and respond to HPAI and protect our nation's agricultural infrastructure and food supply.

o APHIS Veterinary Services (VS) launched the "VS Ready Response Corps," a cadre of veterinarians hired specifically to support emergency response efforts and thus improve APHIS' disease readiness and response capability. At the end of FY2023, five (5) Ready Response Corps staff were hired and onboarded.

o APHIS established a framework for the improvement and verification of the health of U.S. commercially farmed aquatic animals. This framework provided early disease detection, surveillance, reporting, and response for the control of aquatic animal pathogens to prevent their dissemination via aquatic animal movement and trade; and established a unified, consistent approach to health regulations for aquatic animal movement, protecting aquatic animal health for commercial industry and natural resources.

o APHIS continued to lead the transition to the National Bio and Agro-Defense Facility (NBAF) in Manhattan, Kansas by ensuring a sufficient APHIS operational workforce and qualified foreign animal disease diagnostic subject matter experts were in place by September 30, 2023. This included planning for transition of all Foreign Animal Diagnostic Disease Laboratory (FADDL) scientific programmatic areas and biorepository transfer; ensuring ISO 9001 requirements were in place; delivering extensive onsite, scientific and workforce training; and implemented the Global Partnership for Animal and Zoonotic Disease Surveillance (GPAZDS) with International Services.

o APHIS implemented the FY2023 Farm Bill Animal Health Programs Spending Plan; monitored use of funds and carryforward balances.

  • Awarded ~$15.7 million in Farm Bill funds to support 60 new projects in FY2023, including three (3) projects led by Tribal partners.

  • Monitored and managed 126 active cooperative National Animal Disease Preparedness and Response Program (NADPRP) projects and addressed cooperator and PM concerns for these awards as needed.

  • Coordinated the first-ever NADPRP Tribal funding opportunity. Promoted the opportunity and assisted applicants through six (6) presentations at ONTL-led workshops across the nation and two (2) webinars to assist Tribal applicants.

  • Provided strategic oversight in the review of 28 National Animal Health Laboratory Network (NAHLN) Farm Bill proposals and the awarding of $2.29 million to fund 14 projects to advance APHIS' animal health preparedness.

- Supported NAHLN's annual showcase of NAHLN Farm Bill funded projects highlighting projects funded in FY2021.

- Invested $14.3 million in foot and mouth disease (FMD) vaccine antigen concentrate for FY2023.

o APHIS led African Swine Fever (ASF) and Classical Swine Fever (CSF)preparedness and response activities.

- APHIS conducted swine traceability and tested over 32,055 samples including 26,549 domestic and 5,506 feral swine as part of surveillance efforts for ASF.

- APHIS continued molecular and serological surveillance testing for ASF and CSF at the National Veterinary Services Laboratories' satellite laboratory in Puerto Rico and established a quality management system with fully bi-lingual standard operating procedures, work instructions, and forms for surveillance testing.

- APHIS completed renovations and full equipment fit out of the Laboratorio Veteriniario Central (LAVECEN) laboratory in the Dominican Republic (DR) and assisted LAVECEN in obtaining ISO 17025 accreditation. Assisted the LAVACEN laboratory with supplies and reagents for ASF testing. Provided near continuous coverage of the LAVECEN laboratory with over 55,000 PCR tests for ASF/CSF performed.

- Given the proximity of the U.S. to the Hispaniola and the associated elevated risk of free-roaming and feral pigs accessing potentially contaminated food products, APHIS Wildlife Services (WS) prioritized removing feral and free-roaming swine in the U.S. Caribbean territories of Puerto Rico and the U.S. Virgin Islands. During FY2023, APHIS WS worked with territorial government agencies to conduct public outreach and education and conducted 102 deployments which included 50 staff and 2,039 days. A total of 1,983 feral swine were removed and diagnostic samples were collected from 1,116 of those animals. Samples were tested for both ASF and CSF by Polymerase Chain Reaction (PCR) and Enzyme Linked Immunosorbent Assay (ELISA). All samples were negative for the two (2) diseases.

- APHIS identified counties within 12 U.S. states (AL, AZ, CA, FL, GA, LA, MS, NM, OK, SC, TN, and TX) to be at very high risk of entry and spread of the virus. Consequently, APHIS WS began active surveillance for both ASF and CSF using PCR and ELISA. APHIS sampled and tested 4,398 feral swine for ASF and CSF. Resulting in all samples were negative for the two (2) diseases.

- APHIS increased response personnel to create an Illegal Boat Landing (IBL) team assigned to manage and respond to every illegal boat landing. The team responded to 125 illegal boat landings in FY2023, resulting in 759 pounds of animal product recovered.

o Through Antimicrobial Resistance (AMR) specific funds, APHIS awarded 12 new projects to federal, state and university cooperators totaling $3.2 million related to developing and exploring aspects of AMR dashboards to combat this emerging public health threat to people and animals that compromises our ability to treat infections.

- APHIS allocated $70.725 million to support 350 projects under the Plant Protection Act's Section 7721 (PPA 7721) to strengthen the nation's infrastructure for pest detection and surveillance, identification, threat mitigation, and safeguard the nursery production system. This amount included $62.975 million to fund 322 projects for the Plant Pest and Disease Management and Disaster Prevention Program (PPDMDPP). This amount included direct program costs. Approximately $13.5 million of the PPDMDPP funding was reserved for responding to pest and plant health emergencies throughout the year. Selected projects were carried out by State and Federal agencies, Tribal nations, nongovernmental organizations, and private entities in 48 states, Guam, and Puerto Rico. By working with these collaborators, USDA leveraged and extended its ability to protect, detect, and respond to plant pests and diseases at local and regional levels.

- APHIS awarded $15.9 million in new contracts to an Alaskan Native Owned business to manufacture a fleet of 28 mobile incineration units. These units will significantly bolster USDA's ability to quickly respond to emergency depopulation scenarios allowing for a fast, safe, and environmentally friendly method of disposal of hazardous biomass. The delivery of these units is scheduled throughout FY2024. The contracts have approximately 50% remaining additional capacity if further units are needed.

- $30,250,000.00 in FMD VAC purchases were made during FY2023 to further strengthen our NAVVCB and NAFMDVB Vaccine Banks. USDA currently manages two FMD Vaccine banks. The National Animal Vaccine and Veterinary Countermeasures Bank (NAVVCB) was established because of the 2018 Farm Bill. The North American Foot and Mouth Disease Vaccine Bank (NAFMDVB) is a partnership between Canada and the United States with established sharing agreements that allow the partner countries to combine purchasing power and share resources in the event of an FMD outbreak. The FMD Vaccine Antigen Concentrate stored in the banks is a precursor that can be rapidly converted into finished FMD vaccine and sent to any International Airport for rapid deployment.

USDA/Food Safety and Inspection Service (FSIS):
- USDA/Food Safety and Inspection Service (FSIS) and Food Emergency Response Network (FERN) collaborated with the National Football League (NFL), Churchill Downs, Federal, State, local public health, law enforcement, and emergency response, and food industry partners, to create and implement an effective and efficient food protection strategy to protect patrons and attendees at Super Bowl LVII and the Kentucky Derby, respectively, against contamination of FSIS-regulated products.

USDA/Office of Inspector General (OIG):
- USDA/Office of Inspector General (OIG) regularly participated in Emergency Support Function (ESF) #13 activities in furtherance of providing Federal public safety and security assistance to local, state, tribal, territorial, and Federal organizations overwhelmed by the results of an actual or anticipated natural/manmade disaster or an act of terrorism. Six (6) USDA OIG OI Special Agents provided ESF #13 assistance during Hurricane Ian in southwest Florida where they performed emergency response activities.

Food and Drug Administration/Center for Food Safety and Applied Nutrition/Coordinated Outbreak Response and Evaluation Network (FDA/CFSAN/CORE)
    CORE evaluated 70 incidents and transferred 23 to a Response Team for additional follow-up.

o   In FY2023, FDA issued public health advisories for 9 multistate outbreaks of foodborne illnesses or adverse events, associated with 8 product recalls. These communications remove potentially contaminated/harmful products from the market and provide actionable information to consumers to help stop additional illnesses from occurring.

o   In November 2022, FDA issued a final rule on food traceability designed to facilitate faster identification and rapid removal of potentially contaminated food from the market reducing the number of foodborne illnesses and/or deaths. Data collected by CORE informed the creation of this rule.

o   Released several new publications to further outreach efforts, including the following examples:
    o   Scientific Journal Articles (Peer-Reviewed Publications):
        ▪   Investigation of a Multistate Outbreak of *Listeria monocytogenes* Infections Linked to Frozen Vegetables Produced at Individually Quick-Frozen Vegetable Manufacturing Facilities. Journal of Food Protection. June 14, 2023.
        ▪   An investigation of an outbreak of *Salmonella* Newport infections linked to melons – United States, 2020. Food Control. May 24, 2023.
        ▪   Multinational Outbreak of *Listeria monocytogenes* Infections Linked to Enoki Mushrooms Imported from the Republic of Korea 2016 – 2020. Journal of Food Protection. May 9, 2023.
        ▪   An Overview of Foodborne Sample-Initiated Retrospective Outbreak Investigations and Interagency Collaboration in the United States. Journal of Food Protection. April 5, 2023.
        ▪   An Outbreak Investigation of *Vibrio parahaemolyticus* Infections in the United States Linked to Crabmeat Imported from Venezuela – 2018. Foodborne Pathogens and Disease. April 4, 2023.
        ▪   An Outbreak Investigation of *Salmonella* Typhimurium Illnesses in the United States Linked to Packaged Leafy Greens Produced at a Controlled Environment Agriculture Indoor Hydroponic Operation – 2021. Journal of Food Protection. March 31, 2023.
    o   Trade-Press Magazine Articles:
        ▪   A Review of Outbreak Investigations of Salmonella Infections Associated with Cashews and Cashew-Containing Food Products in the U.S. Food Safety Magazine. August 8, 2023.
        ▪   Recent Outbreaks of Listeriosis Linked to Fresh, Soft Queso Fresco-Type Cheeses in the U.S. Food Safety Magazine. February 2023.
    o   Tri-Agency Report:
        ▪   Foodborne illness source attribution estimates for *Salmonella, Escherichia coli* O157, and *Listeria monocytogenes* — United States, 2021. Interagency Food Safety Analytics Collaboration (IFSAC). November 2023. The IFSAC report

analyzes, by calendar year, foodborne illness outbreak data collected by CORE. The report is part of ongoing efforts to understand the sources of foodborne illness in the United States.

o Published an Outbreak Investigation Report entitled [Factors Potentially Contributing to the Contamination of Cantaloupe Implicated in the Outbreak of Salmonella Typhimurium During the Summer of 2022](#) to expand the information available to growers on the capacity for foodborne pathogen survival, persistence, and movement in and through the agricultural environment.

o Published an [annual report](#) that summarizes the adverse events and outbreaks linked to FDA-regulated foods investigated by the CORE Network by calendar year and highlight any public health actions that were taken as a result of those investigations.

FDA/Office of Regulatory Affairs/Office of Regulatory Science (FDA/ORA/ORS)

o The Laboratory Flexible Funding Model Cooperative Agreement (LFFM) provided state partner Food Emergency Response Network (FERN) laboratories with $24.8 million dollars to help them achieve various laboratory goals in support of an integrated food safety system. This funding was for activities conducted from July 2022 through June 2023. These activities included funding of 18 radiochemistry labs, 12 microbiology labs, and 11 chemistry labs to maintain competency and readiness for analytical methods aligned with food defense threats/hazards, as well as support response efforts, if needed. The LFFM also supports surveillance of human and animal food, whole genome sequencing (WGS) of pathogens isolated from food and environmental samples, as well as method development/validation and capacity/capability development projects.

o Multiple FDA labs continued to support the Food Emergency Response Network (FERN) program throughout FY2023. SMEs and management from FDA/ORA/ORS also met with peers from the Centers for Disease Control and Prevention (CDC) to provide information on the use of high-resolution mass spectrometry (HRMS) for poison and toxin screening.

o FDA continued to maintain and enhance the FDA BSL2+ BSL3 Program by holding a LB313: Principles and Lab Practices of BSL-2+ and BSL-3 course, verifying a new Endopep-MS method for the detection of C. botulinum Neurotoxin, completing construction design on a new BSL-3 laboratory, and managing the BSL-2+/BSL-3 program workgroup that supports continued enhancements and proficiencies to the program. FDA continues to maintain readiness and expand FERN network capabilities and capacities by training of new staff and conducting proficiency testing to ensure labs are at the ready if or when there is a need for testing support.

o FDA also continued to provide FERN member laboratories with free opportunities to demonstrate proficiency and competency in multiple methods and analytes for Federal, state, and local partners. In FY23, 4 chemistry PTs/exercises and 5 microbiology PTs/exercises were issued to a cumulative 234 participating laboratories in FY23. FDA Radiochemists at Winchester Engineering and Analytical Center (WEAC) provided one exercise for the FERN Radiological Laboratories in the identification of gamma-emitting radionuclides in food products. Twenty-five laboratories participated including WEAC in August of 2023.

o FDA WEAC analysts continued to support and advise FERN member laboratories in instrument purchase, instrument troubleshooting, and method development activities involving the detection of radioactivity in food products. ORA/ORS analysts prepared and presented free webinars about elemental analysis of food in lieu of in person training due to pandemic related travel restrictions.

o FDA/ORA/ORS began a joint research effort with FDA/CFSAN and New Hampshire Public Health Laboratory to modify arsenic speciation methods 4.10 and 4.11 in FDA's Elemental Analysis Manual Methods. The goals are to improve detection levels, simplify inorganic arsenic quantitation, and extend the method to non-rice infant foods. The various duties of the project are split amongst the participating laboratories and progress continues to be made in FY23 and into FY24. There is an active CARTS project (CARTS# IR01962).

o In FY2023, in collaboration with FDA Seattle District Office and Alaska Department of Environmental Conservation (ADEC), WEAC performed radionuclide analysis of 31 fish samples collected in Alaska seafood harvesting areas per a partnership agreement between FDA and ADEC. The purpose of the partnership agreement is to enable Alaska state radioanalytical capability and provide continued monitoring of Alaska Coastal water fish products for radionuclides in response to the Fukushima nuclear reactor accident.

o FDA/ORA/ORS provided technical support to the ADEC portable gamma-ray analysis program and an annual proficiency sample for them to demonstrate competency.

o FDA/ORA/ORS, per a partnership agreement between FDA and Rhode Island Emergency Management Agency (RIEMA), demonstrated the portable gamma-ray analysis system and analyzed 3 samples as part of an emergency exercise.

o FDA Expanded the presence of scientists and handheld or portable tools at points of entry to the U.S., including International Mail Facilities and Express Courier Hubs, by establishing satellite laboratories at selected locations in partnership with the U.S. Customs and Border Patrol (CBP), along with the creation and provision of training sessions for OIO Consumer Safety Officers and OCI Special Agents.

o FDA Supported the New Era of Smarter Food Safety initiative by continuing FDA support of novel approaches to recording and sharing of SLTT analytic data, the ORA Partners Portal (ORAPP) and National Food Safety Data exchange (NFSDX) and increasing access to laboratory data generated by Laboratory Flexible Funding Model (LFFM) participants and other external partners. In FY23, three LFFM laboratories exercised their capability for integrated data reporting by participating in FDA OIO Assignment #23-D02, which involved FDA-collected samples being sent to state laboratories and utilized NFSDX and ORAPP to seamlessly submit state analytical results directly into FDA's IT system. This type of inter-agency sample collect/analysis capability and integrated data reporting is essential for large-scale events with a significant surge capacity need.

FDA/Office of Regulatory Affairs/Office of Partnerships (FDA/ORA/OP):
o FDA and the United States Postal Service (USPS) signed a Memorandum of Understanding supporting a bilateral electronic international mail data exchange system for parcels handled at

international mail facilities (IMFs). The new data system will unify data management and electronically share data between the USPS and FDA systems via a single access point, by exchanging data more efficiently and uploading parcel data directly from USPS' systems, and providing transparent, real-time, automated messaging on parcel tracking, custody, and disposition at the IMF. This access has a far-ranging impact to improve productivity and targeting capacity, supporting the US government's efforts to combat illegal importation and will drive operational and IT innovation, making operations more efficient and effective through automation.

Environmental Protection Agency (EPA):
o The EPA Office of Chemical Safety and Pollution Prevention (OCSPP) along with all other EPA offices and regions implemented individualized climate adaptation plan during this period which outlines steps to address this issue climate adaptation plans and Climate Adaptation Implementation Plan. The EPA/OCSPP plan has several elements which are agriculture related topics including considering improvements in risk assessment and risk management processes to account for climate adaptation and to ensure most recent data that could be climate sensitive are used in its processes. In the last year, EPA/OCSPP created a strategy for addressing the priority actions in its plan and in this current year is developing case studies associated with this plan. These case studies will allow EPA/OCSPP to identify data, process improvements and decision criteria that will allow for more refined consideration of climate related topics in its decision-making processes using the most current and fit for purpose data and tools.

o Activities Related to Managing Disinfectant Products:

- In Quarter 3, published a proposed interim decision and a draft risk assessment addendum for the high priority product ethylene oxide which is used primarily for a variety of medical sterilization processes.

- Continued work toward development of an updated risk assessment for formaldehyde.

- Released for public comment draft guidance proposing how manufacturers of antimicrobial products with sanitizing claims could add efficacy claims against viruses. The guidance, once finalized, would expand the universe and availability of antimicrobial products that are effective against viruses such as SARS-CoV-2.

o Event/Consultation Activities:

- Participated in the meetings of the EPA Bio risk Management Advisory Committee (BMAC) – the committee provides a forum for the technical review for agency laboratory biosafety and biosecurity protocols, research on select agents, and projects related to COVID-19. Efforts included:

  - Updating the status of the BMAC's select agent registration.

  - Updating High Containment Laboratories Policy, Practices and Procedures for Working with Biosafety Level 3 Microorganisms.

- Continued collaboration with the International Commission on Plant-Pollinator Relationships to develop testing guidelines for higher tier pollinator studies that will culminate in internationally harmonized guidance.

o Tool Support Activities:

- Completed multi-year rulemaking efforts that established exemptions of certain plant-incorporated protectants (PIPs) derived from newer technologies and added Chitosan to the list of permitted active ingredients in exempt minimum risk pesticide products.

- Led efforts within OECD Expert Group on Biopesticides (EGBP), OECD Working Party on Pesticides (WPP) Ad Hoc Expert Group on RNAi-based Pesticides to develop projects to innovate testing with microbial pesticides and finalize guidance on human health risk assessment of sprayed or externally applied dsRNA-based pesticides, including other major harmonization efforts with OECD Working Party on Harmonization on the Regulatory Oversight of Biotechnology Products (WP-HROB) and OECD Working Party on Safety of Novel Foods and Feeds (WP-SNFF).

- Continued to support ongoing development of pesticide products. This included registering 20 new active ingredients, completing 23 emergency exemption decisions (Section 18 under FIFRA), and reviewing labels/materials for 40 device products to ensure compliance with device regulations.

Food and Agriculture Sector Coordinating Council (SCC) and Government Coordinating Council (GCC):
o Hosted host bi-annual membership meetings, which occurred on November 9-10, 2022, and April 13, 2023, in support of goals one through five (1-5).

o Coordinated the following meetings series:

- Monthly GCC Leadership - five (5)

- Monthly GCC & SCC Leadership – 10

- Monthly GCC Membership meetings - five (5)

o Compiled Food and Agriculture related information from across USDA, FDA, and CISA into weekly communications. During FY 2023 over 60 communications were sent out to over 350 members.

o Coordinated SCC and private sector participation in CISA's development of cross-sector Cybersecurity Performance Goals (CPG) intended to establish fundamental cybersecurity practices to help organizations start or reinforce their cyber security efforts.

Michigan Department of Agriculture and Rural Development (MDARD):
o Hosted eight (8) trainings directly resulting in enhanced capability and networking with partners, including Risk/Crisis Communications and Communications 101 training for staff and local public health partners, Outbreak Ready/Epi Ready Training, GOOD Samples Training, response exercises in coordination with the Michigan turkey industry, PEER Training for field response to food- and feed-borne emergencies, and a joint incident management workshop with FDA and local public health emergency response personnel.

o Presented at six (6) conferences or training events that directly resulted in promotion of combined capabilities to prevent, protect against, mitigate, respond to, and recover from manmade and natural disasters.

USDA/ National Institute of Food and Agriculture (NIFA):
o USDA NIFA through the Food and Agriculture Defense Initiative NAHLN - funded 17 of the 23 Level 1 Main NAHLN Laboratories. There was a total of 59 NAHLN labs which included: 23 Level 1 Main NAHLN labs with an additional nine (9) Level 1 Branch NAHLN labs. There were 20 Level 2 Main NAHLN labs with an additional two (2) Level 2 Branch NAHLN labs. There were four (4) Level 3 NAHLN labs and one (1) Affiliate NAHLN laboratory.

o USDA NIFA through the Food and Agriculture Defense Initiative National Plant Diagnostic Network (NPDN) supports a network of laboratories in the 50 states and in the two (2) territories that fulfill economically critical needs for plant pest detection, diagnosis and reporting to minimize threats and work side by side with APHIS, to provide essential testing capacity for regulated pests and manage sample surge during outbreaks. The network continues to support producer accessibility to diagnostic information on and various tools (bioassay, conventional, molecular, serological, sequencing, and others) for routine pests and emerging and remerging threats to agriculture and food production.

o USDA NIFA through the A1181 Agricultural Biosecurity Program area - awarded $9.9M for 17 projects that will contribute towards improved agricultural biosecurity through multiple approaches, including risk assessments for global sea container movement of agricultural products, detection and tracking system for bacterial threats to the potato and vegetable industries, novel vaccine technologies for highly pathogenic avian influenza, and DIVA diagnostics for ASF. This includes four (4) proposals related to SARS-CoV2 that were funded collaboratively with USDA APHIS. The A1181 Agricultural Biosecurity Program is unique not only in its singular focus on Agricultural Biosecurity, but also in its focus on increasing U.S. national capacity to prevent, rapidly detect, and respond to biological threats to U.S. agriculture and food supply through the development of tools for the:

- Detection and diagnostics of transboundary, emerging, or re-emerging pests and diseases associated with animal production systems and/or transboundary, emerging, re-emerging, and invasive diseases, insects and weeds associated with plant production systems.

- Rapid response to, and recovery from, pests and diseases that pose large-scale biosecurity threats to plant and animal production, including existing and imminent threats to U.S. agricultural production and food supply systems.

o USDA NIFA supported the Food and Agriculture Defense Initiative Extension Disaster Education Network (EDEN). EDEN's 1890s Advisory Group partnered with the Texas A&M University System, Texas A&M University, Texas Division of Emergency Management (TDEM), and the Alabama Coushatta Tribe of Texas and other academic and non-academic partners to host the 3rd Annual Preparedness for, Response to, Innovation on, Mitigation of, and Recovery (PRIMR) Conference in March 2023 on the campus of Prairie View A&M University, Texas. Over 100 people attended the conference. The conference casts a spotlight on the unique roles of 1890 land-grant and indigenous institutions in responding to the needs of underserved people and places as they prepare for disasters.

o USDA NIFA Crop Protection and Pest Management Program awarded $10 million for 52 Extension Implementation projects across the 50 states and some territories that provide integrated pest management outreach and training and surveillance and detection of emerging and exotic pests. Progress reported from these projects indicate over 400,000 individuals were reached out or trained on integrated pest management information.

USDA/ Agricultural Marketing Service (AMS):
o AMS signed two (2) cooperative agreements with the Port of Houston and the Port of Oakland for a total of $3,963,364 to aid the marketing and distribution of containerized agricultural exports impacted by near-term market disruptions from COVID-related transportation challenges.

- At the Port of Houston, this directly resulted in an increase in refrigerated agricultural exports from only one (1) refrigerated container per month to over 900 per month.

- At the Port of Oakland, this directly resulted in making 14,859 empty containers available, with an estimated 60% (8,915 containers or 17,830 TEU) of that filled with agricultural exports.

o AMS provided leadership on efforts to better align responsibilities between the FDA and EPA for genetically engineered animals, including insects, related to implementation of the National Strategy for Modernizing the Regulatory System for Biotechnology Products.

o AMS participated in and supported the International Biotech Outreach Committee, created by Executive Order 13874: *Modernizing the Regulatory Framework for Agricultural Biotechnology Products*. to develop strategies for effective communication on agricultural biotechnology at the international level. Additionally, provided input to NSC/EPA on Biomanufacturing and Biotechnology: [Driving Innovation for a Sustainable, Safe, and Secure Bioeconomy.]

o Through the Indigenous Animals Harvesting and Meat Processing Grant Program (IAG), AMS supports the priorities of Tribal Nations by funding projects which invest in Tribal Nations' supply chain resiliency, indigenous animals, restoring local indigenous food systems, and indigenous processing methods, and expanding local capacity for the harvesting, processing, manufacturing, storing, transporting, wholesaling, or distribution (communal or commercial) of meat, poultry, seafood, and other animals that provide culturally appropriate food and food security to tribal communities. AMS conducted the pre-award process for issuing grants and then transferred grant administration to Rural Development (RD) Rural Business-Cooperative Service (RBCS).

USDA/ Rural Development, Rural Business-Cooperative Service (USDA RD):
o USDA RD RBCS stood up two (2) programs that bolster and support food supply chain resiliency. These programs are part of a suite of 'food system transformation' programs that were created to respond to and mitigate the breakdown of the meat and poultry supply chains experienced during the pandemic.

- The first FY2023 program, the Indigenous Animals Harvesting and Meat Processing Program, or IAG, provided grant funding to Tribes and Tribal entities to enhance and expand their capacity to process indigenous species, to meet commercial and food security and sovereignty goals. As of September 30, 2023, the IAG program had 70 eligible applications requesting $300 million under review for funding.

- The second program is the second round of funding for the Meat and Poultry Processing Expansion program (MPPEP). The initial program was launched in FY2022; this second round of funding was made available in August 2023 for independent meat and poultry processors to expand or create processing capacity for producers, resulting in more, better, or new markets for their products, and contributing more options, and therefore resiliency, to meat and poultry supply chains nationally. As of September 30, 2023, 36 processors totaling $208 million had received MPPEP awards from the initial round; the application period for the second round of MPPEP extended into FY2024 until November 22, 2023, with initial awards expected in Spring 2024.

o RD's Innovation Center created a Disaster Resiliency and Recovery Resources Guide to provide guidance on recovering from disasters that threaten national food and agricultural infrastructure. The guide makes clear funding and resources available. The resource guide outlines USDA RD programs and services that can help rural residents, businesses and communities impacted by disasters and support long-term planning and recovery efforts.

- **Disaster Guide Link (English)**

- **Disaster Guide Link (Spanish)**

Private Sector:
o   Industry partners have continued to expand our resilience with offsite, redundant backups with enough geographical separation to make it extremely unlikely that a single event would prevent recoverability.

o   In FY2023, the private sector shared information with its members and to the sector as it relates to manmade and natural disasters that threaten the national food and agriculture sector. We share weekly updates on natural disasters, forest fires, active shooting situations, and chemical related disasters and spills. Also, they provided threat intelligence to the sector, which includes prevention, detection, and mitigation practices. This sharing helps keep the sector informed on the latest threats and best practices to mitigate them.

o   Over the reporting period we have focused on ensuring a steady increase in our resiliency preparedness through a focus on operational and technology capabilities to incorporate resiliency into our processes while expanding our disaster recovery capabilities aligned to the operational expectations of key stake holds across the organization. These actions have resulted in a 95% fully compliant state on resiliency planning expectations. Additionally, there have been 6 crisis simulation exercises across various segments of the organization to test resiliency desperateness and restoration capabilities.

o   In October 2022, a student-intern from Coastal Carolina University's Intelligence and National Security Studies completed a project to update the foundational 2008 Dalziel et al report, "Chronological Listings of Food Defense Events"; the result of this project was a depth analysis of 25 events in which food or drink was intentionally contaminated; these reports were categorized by the type of agent used, geographic descriptors and the impact of the incident.

Goal 2: Improving Sector Situational Awareness through Enhanced Intelligence Communications and Information Sharing among all Food and Agriculture Sector Partners

Sector members carried out several initiatives to improve sharing and awareness of information availability to SLTT and private sector partners. APHIS kept a steady pace of activities that improved situational awareness within the sector on critical disease and pest issues.

USDA/ Agricultural Marketing Service (AMS):
o   AMS participated on the steering committee of the Agricultural Biotech Education and Outreach Initiative as subject matter experts in support of this effort. The steering committee completed phase three (3) of this four (4)-phase FDA-led $7 million initiative, developed through participation between FDA, USDA, and EPA. It provided consumer outreach and education through distribution of science-based information on the environmental, nutritional, food safety, economic, and humanitarian impacts of agricultural biotechnology. In phase three (3), additional education material on GMOs was released for consumers, health educators, and health care providers: FDA Releases New "Feed Your Mind"

USDA/Animal and Plant Health Inspection Service (APHIS):
o APHIS enhanced capabilities through the American Rescue Plan Act to increase internal, domestic, and international capacity to detect emerging threats and provide information for action in response to pathogens with zoonotic potential.

o APHIS invested $16.8 million to support the modernization of the World Organization for Animal Health's information systems to support countries so they can prevent, detect, or limit the next zoonotic disease outbreak. This effort will build capacity in Africa, the Middle East, Eastern Europe, and Central Asia to support surveillance, risk analysis and response for SARS-CoV-2 and other health risks at the human-animal-wildlife interface.

o APHIS invested $5 million to support the modernization of the Food and Agriculture Organization of the United Nations Emergency Prevention System, known as EMPRES-i+ and EMA-i. These upgrades will help to strengthen and sustain the capacity of all countries in the vital investment needed for early warning, risk reduction, and management of disease threats to mitigate spread within and across national borders.

o APHIS invested in a $6 million collaboration with John Hopkin's University Applied Physics Laboratory to complete a feasibility study and design a prototype that will give APHIS the ability to integrate surveillance and epidemiological information across internal systems, and to outside public health partners such as the Centers for Disease Control and Prevention.

o APHIS initiated 98 social media posts that resulted in nearly 80,000 impressions and 3,300 engagements, facilitated a multitude of interviews with prominent domestic and international news outlets, and responded to 72 media calls in efforts to strengthen understanding of the SARS-CoV-2 virus, how it spreads, and what animals it impacts.

o Throughout the HPAI response, APHIS has collaborated with the CDC for monitoring of HPAI responders for influenza-like illness. At the end of FY2023, 6,529 people in 52 jurisdictions who have been exposed to infected birds/poultry have been or are being monitored for symptoms. Additionally, APHIS created, published, and maintained a public-facing web map dashboard for monitoring HPAI.

o In FY2023, APHIS conducted APHIS One Health projects and initiatives and developed an APHIS-wide response plan/approach that describes how APHIS will collaboration within and across programs to respond to emerging, zoonotic diseases, including American Rescue Plan representation and AMR work.

o APHIS hosted a Tribal Listening Session on the Testing Procedures for Approved Bison Quarantine Facilities to Classify as Brucellosis Free, updating Tribes on the proposed guidance for bison quarantine and encouraging feedback on future implementation.

- APHIS hosted meetings with the swine industry on the use of oral fluids for ASF testing and meet with industry, academic and international partners to discuss use cases for oral fluid testing based on the presentations.

- APHIS hosted the 2023 ASF Forum for over 200 national and international participants. This was a three-part series that focused on trilateral coordination to prevent the introduction of the ASF virus into North America.

- APHIS hosted the ASF Laboratory Preparedness Week, which included 82 participants from 45 NAHLN laboratories, State officials, and APHIS representation. Activities included a tabletop exercise, workshops, and updates on a variety of ASF-related topics.

- APHIS conducted significant outreach to all states especially southern border states regarding ASF concerns and dispersed "Protect Our Pigs" outreach materials to accredited veterinarians and producers at each stakeholder meeting.

- APHIS consulted with stakeholders on FY2024 funding priorities for general and Tribal funding opportunities under the Farm Bill. Facilitated discussions with NADPRP Consultation Board and captured input from Sector and many other meetings with animal health partners to ensure that NADPRP addresses current critical needs.

- APHIS coordinated and hosted monthly calls between its leadership and National Association of State Departments of Agriculture members to provide timely updates and discuss high priority topics related to plant and animal health, wildlife management, and animal welfare.

- APHIS coordinated and hosted seven sector meetings (sheep/goat, aquaculture, animal and animal products trade, equine, cervid, cattle, swine, apple, potato, nursery, forest, and seed) with APHIS leaders, industry representatives, and State and Tribal partners to discuss diseases and pests of concern, emerging animal and plant health issues, industry challenges, and more.

USDA/Food Safety and Inspection Service (FSIS):
- During National Security Special Events and selected special events, such as Super Bowl LVII and the Kentucky Derby, FSIS coordinated with internal and external stakeholders to sample and test food for certain threat agents; collaborating with federal, state, and local law enforcement and public health officials to facilitate and execute targeted surveillance activities related to food defense; and providing food defense materials, including pamphlets and brochures, to vendors and suppliers. These partnerships increased situational awareness of food defense among those charged with protecting the events. FSIS's efforts also helped ensure that patrons attending these events had safe and wholesome food for their consumption.

FDA/CFSAN/Coordinated Outbreak Response and Evaluation (CORE) Network
- Continued release of the Coordinated Outbreak Response & Evaluation (CORE) Investigation Table, which provides information on FDA foodborne illness outbreak investigations and responses and gives consumers an early awareness of developing multistate outbreaks occurring across the United States. The table is updated once a week and includes all outbreaks for which a CORE Response Team is involved in an active investigation.

o   In FY 2023, CORE continued work with the CFSAN Consumer Studies Branch to conduct research studies to evaluate the effectiveness of the risk communications issued by CORE during ongoing outbreaks. These studies informed the development of new outbreak advisory templates and continue to inform the messaging to ensure consumers can understand and use the information provided within the advisory. The results were used to employ significant changes to the design and language used in the outbreak/adverse event advisory template that was launched in 2023.

FDA/Office of Regulatory Affairs/Division of Food Defense Targeting (FDA/ORA/DFDT)
o   DFDT created the Surveillance and Investigation of Food Threats (SIFT) working group intended to foster increased interaction, communication, and collaboration between the FDA Division of Food Defense Targeting (DFDT), the Center for Food Safety and Nutrition (CFSAN) Food Defense and Emergency Coordination Staff (FDECS), the Office of Criminal Investigations (OCI), and the Human and Animal Food Work Planning Branch (HAF) regarding emergent food and feed threats. Future goals for the group include collaboration and information with other state and federal partners, including, but not limited to, the United States Department of Agriculture (USDA), The Department of Homeland Security (DHS), the Defense Intelligence Agency (DIA) and Federal Bureau of Investigation (FBI) regarding these threats.

USDA/ National Institute of Food and Agriculture (NIFA):
o   USDA NIFA supported the Food and Agriculture Defense Initiative EDEN which hosted monthly professional development webinars for Extension professionals. The webinar series averaged 50 participants per event. All webinars were archived for timely access by Extension professionals across the national Cooperative Extension System. The EDEN Annual Conference was held in Grand Rapids, MI, in October 2022. Over 100 people attended representing higher education and local and state governments. EDEN also appointed a delegate to represent the Network to the Food and Agriculture Sector Coordinating Council to increase the sharing and receiving of situational awareness on topics that affect food and agricultural systems.

USDA/ Rural Development, Rural Business-Cooperative Service (USDA RD):
o   USDA Rural Development's Electric Programs worked with the National Rural Electric Cooperative Association (NRECA) and several Generation and Transmission (G&T) rural electric cooperatives to implement best practices for the identification and mitigation of grid security and cybersecurity risks to power systems in rural America. This activity has resulted in G&T borrowers' ability to enhance the security of the electric grid in rural America.

o   USDA Rural Development's Innovation Center created two (2) mapping tools on the ESRI geospatial platform ARCGIS Online (AGOL) that provide critical information about availability of rental units, areas impacted by disasters, and areas of critical concern where Rural Development has investments.

  •   [The Multi-Family Housing Mapping Tool](#) identifies the location of multifamily housing properties that are within communities considered priority for RD Programs. The tool uses the following priority communities:

- Distressed Communities Index

- CDC Social Vulnerability Index

- Persistent Poverty Counties

- Distressed Energy Communities

- The Rural Development Investments in areas of Emergency Concern mapping tool identifies the location of RD investments in areas of natural disaster concern. This tool focuses on the program delivery of RD's field-based programs: Community Facilities, Rural Business-Cooperative Services, Multi-Family Housing – Direct, and Water and Environmental Programs. RD utilizes this map to provide assistance during emergency events and understand threats to the agency's investments. The natural disaster layers include dynamic and frequently updated information on earthquakes, weather, and fire locations.

Michigan Department of Agriculture and Rural Development (MDARD):
o   MDARD improved sector situational awareness by:

- Participating in the 2023 Regional Ruckus, a meeting for state agency agricultural/animal regional groups to network and collaborate on joint and priority issues including disease management, natural disasters, and communications.

- Partnering with FDA and Local Public Health emergency response partners, MDARD hosted an Incident Management Workshop in June 2023 focusing on food defense and incident management at National Security Special Events (NSSEs), improving operational coordination among response partners in the FA sector and identifying future opportunities to leverage partner capabilities.

- Meetings with United Dairy Industry of Michigan and the Michigan Allied Poultry Industry to discuss shared priorities, opportunities, and facilitate better information sharing.

- Ongoing participation of the Michigan Secure Pork Supply working group which includes partners from federal and state government, academia and extension, the Michigan Pork Producers Association, and producers; this results in better information sharing of risk level and problem solving to identify solutions to business continuity during a disease outbreak affecting the swine industry.

Private Sector:
o   In October 2022, the Food Defense Consortium convened a panel presentation entitled, "CyberSecurITy, Food Defense, Infrastructure Protection & Information Sharing: how food PROTECTION pulls these concepts together: A conversation on how supply chain, critical infrastructure and how EVERYTHING is connected" at the Food Safety Consortium

(Parsippany, NJ) to the 125 attendees+; presenters included DHS Protective Security Advisor Region 2, the Food Defense Consortium, ASIS Food Defense and Agriculture Security Community and USDA's/FSIS and 2 private sector/industry speakers. Attendees learned about the challenges associated with 'securing' operational technology (OT) controls in a food manufacturing environment. Tools, resources, and future collaborative private/public partnerships were discussed, including Operation SHIELD.

o In March 2023, the InfraGard Food and Agriculture Sector, the Food Defense Consortium and the ASIS Food Defense and Agriculture Security community convened a webinar entitled, "Food Protection: The Ultimate Security Challenge" which was broadcast globally and attended by greater than 500 participants. Highlights of this webinar included an emphasis on supply chain security/cargo theft and transportation challenges; information sharing opportunities and the need for stronger public/private partnerships to strengthen situation awareness across the global food supply system.

o Additionally, in FY2023 the sector's situational awareness was improved by sharing proactive threat intelligence both physical and cyber related. sector analysts provide threat intelligence to members, partners, and to the sector. We share information on critical vulnerabilities, active exploitation, threat actor tactics, techniques, and procedures. We facilitate weekly and bi-weekly calls, and host discussions on various food and agriculture related topics. These activities bolster the sectors situational awareness.

   • In FY2023, the sector partnered and collaborated with several trade associations to share threat intelligence and promote situational awareness to the Food and Agriculture sector.

   • In FY2023, we created a University Partnership program to collaborate and share with prominent food and agriculture focused universities and research institutes.

   • In FY2023, the sector created and shared a Small and Medium sized business best practice guide to help support the Food and Ag supply chain of smaller and less cyber mature organizations. This guide provides several low-cost, easy to implement best practices that organizations can use to bolster their security.

o During the reporting period we have supported the launch of the Food and Agriculture Information Sharing and Analysis Center. Additionally, internal processes were enhanced to more effectively identify, package, and share intelligence gathered through the internal incident response processes to ensure timely, relevant threat data can be shared with the private sector.

Goal 3: Assess All-Hazards Risks, including Cybersecurity, to the FA Sector

Federal partners in the FA sector were focused on better understanding and mitigating threats to America's supply chains. Furthermore, the community conducted risk and vulnerability assessments to identify gaps within the FA sector.

USDA/Agricultural Marketing Service (AMS):

o   AMS has formalized its Enterprise Risk Management Program following the guidance issued by the USDA Office of Budget and Program Analysis (OBPA) to implement the requirements of OMB Circular A-123. For FY2023, AMS assessed risks to the FA Sector that directly impact AMS strategic goals and operations. AMS identified risks associated with abrupt technology changes and failures, biological, chemical, and ecological incidents, economic disruptions, cyber-attacks on industry customers and partners, and natural disasters. AMS aligned budget requests and process improvements to begin to respond to some key risks. For example, given the ongoing external and internal requests for supply chain support across commodities, AMS proposed $2,000,000 for inclusion in the FY2024 USDA budget for data analysis, research, and program/policy development. The FY2024 USDA budget included this request to support AMS's ongoing response to food and agriculture supply chain disruptions and our efforts toward ongoing government wide coordination (e.g., through interagency supply chain work, Executive Orders, and contributions to cross-Departmental reports).

o   AMS assessed risks of commodity transportation disruptions facing the FA Sector by monitoring, reporting, and analyzing two major transportation disruptions – a potential national rail labor strike and an historic drought impacting the Mississippi River. For rail, these tasks directly resulted in providing daily status updates for the Secretary, participation in daily interagency meetings, and a seven (7)-page impact analysis used for the FEMA and DOT's rail contingency playbook. For barges, these tasks resulted in nine weekly briefings for the Secretary and White House National Economic Council that provided key insights into supply chain and grain market disruptions.

o   AMS led USDA's continued efforts to respond to the President's Executive Order 14017 on "America's Supply Chains," issued February 2021, which required USDA to submit, within one year, a report to the President that assesses the supply chains for agricultural commodities and food products. The final report was published in February 2022, outlining the risks and resilience of U.S. agri-food supply chains, and identifying potential solutions to address vulnerabilities. While USDA issued the report in February 2022, AMS continued to be engaged throughout FY2023 in responding to ongoing White House requests for accomplishments following the report and for input and deliverables associated with the creation of a government wide Supply Chain Council (announced in late 2023) and reconvened Interagency Policy Committee (IPC).

USDA/Animal and Plant Health Inspection Service (APHIS):

o   APHIS provided over $22 million in American Rescue Plan Act funding to enhance cybersecurity with its One Health laboratories by implementing high speed data transport-based networks with software defined network segmentation for laboratory equipment. This upgrade will improve data transfer capabilities reducing the need for external drives to conduct analyses and allow for managed updates and patching.

o   APHIS collaborated with stakeholders, hunter/waterfowl organizations, and other federal agencies to provide appropriate requirements for importing hunter-harvested wild bird meat/carcasses from Canada that address the HPAI transmission risk to our domestic poultry.

o   APHIS conducted HPAI case control studies for turkey and table egg layer chicken premises.

Risk factors identified in these studies were shared with the poultry industry and State animal health officials, providing information producers can use to protect their flocks.

o APHIS implemented a strategic plan for the National Veterinary Stockpile (NVS), which ensures that the NVS procures equipment and supplies for animal disease outbreaks. The NVS delivered supplies to Puerto Rico to support enhanced ASF surveillance activities, deployed critical supplies and equipment to support HPAI emergency response activities and conducted a CSF vaccine deployment tabletop exercise (TTX) in Libourne, France to validate the end-to-end logistics processes from the manufacture facility to receipt in the US.

o Marketing and Regulatory Programs (MRP)/Information Technology Division (ITD) Cybersecurity Directorate continues to work toward implementing the cybersecurity improvement plan. Notable accomplishments include the security engineering team developing a new vulnerability management approach that resulted in a total reduction of 65% of the total vulnerabilities backlog. The average time to remediate patches has been significantly reduced from 186 to 16 days, a 93.1% reduction, and the critical Log4j and Print Spooler exploits have been reduced to zero (0) across the MRP network and our supported machines. These efforts ensure the reduction of cybersecurity risk to the FA sector. The team also remediated zero (0)-day vulnerabilities, mitigated ongoing attacks, and overall improved the security posture of multiple High Value Assets. From a risk management and compliance perspective, the Cybersecurity Directorate continued to maintain full compliance with zero (0) expired Authority to Operate (ATO) memorandums in FY2023. These documents ensure that the proper security controls are in place and tested, which allow for risk to be reduced to an acceptable level.

USDA/Office of Inspector General (OIG):
o USDA OIG Information Technology Audit Operations (ITAO) assessed cybersecurity risks facing the Food and Agriculture sector by conducting eight (8) engagements. These tasks directly resulted in 16 findings and 38 recommendations that focus on improving the cybersecurity posture at USDA. These engagements include an annual FISMA audit, penetration testing, and compliance inspections at USDA.

USDA/Food Safety and Inspection Service (FSIS):
o FSIS conducts their Vulnerability Assessment (VA) Framework to assess risks and threats to FSIS-regulated products on a two (2)-year cycle using a survey process with subject matter experts across government, academia, and industry. The last survey was conducted in FY21, and responses received did not indicate the need for a new VA or VA update during FY22. The next VA will be conducted during FY2023.

USDA/ National Institute of Food and Agriculture (NIFA):
o USDA NIFA supported the Food and Agriculture Defense Initiative EDEN which continued to implement a biosecurity competitive grant program that was informed by informal stakeholder listening sessions and a survey of Extension professionals. The competitive grant program supports EDEN's efforts to assess relevant risks to food and agricultural systems. The funded projects resulted in deliverables that included four (4) educational publications, four (4) news releases, three (3) videos, two (2) publications, two (2) websites, and other resources such as a report, toolkit, presentations, virtual reality educational game, and an

exercise. The topics addressed by the deliverables included agricultural health and safety issues, private well and septic system care, and animal biosecurity. Individual project progress and technical reports provide key data on changes in knowledge, attitudes, and behaviors of target audiences.

FDA/Center for Food Safety and Applied Nutrition/Office of Analytics and Outreach/Food Defense and Emergency Coordination Staff (FDA/CFSAN/OAO/FDECS)
o   FDA completed eight (8) vulnerability assessments on food production systems under its jurisdiction to support National Security Memorandum-16 (NSM-16) deliverables and to inform the larger food and agriculture risk assessment conducted by the Department of Homeland Security. These vulnerability assessments align with the exemplar foods identified for assessment in the initial annual cycle of NSM-16 directives. New vulnerability assessments conducted in FY23 included consideration of cybersecurity vulnerabilities in food production systems.

FDA/Office of Regulatory Affairs/Division of Food Defense Targeting (FDA/ORA/DFDT)
o   DFDT worked with FDA's Office of Policy, Compliance, and Enforcement (OPCE), Office of Chief Counsel (OCC) and other partners to publish a proposed rule to the prior notice regulations to add a requirement that the prior notice for articles of food arriving by international mail include the name of the mail service and a mail tracking number. Receiving the name of the mail service and a mail tracking number will enable FDA to better coordinate with the U.S. Postal Service (USPS), U.S. Customs and Border Protection (CBP), and other agencies to track and inspect articles that have been identified as a possible bioterrorism risk. FDA has responded to all comments and the final rule is expected to publish in the summer of 2024.

Michigan Department of Agriculture and Rural Development (MDARD):
o   MDARD assessed the following all-hazards risks facing the FA sector:

- Conducted approximately 1,152 Michigan Agricultural Environmental Assurance Program on Michigan agricultural facilities, resulting in better protection, prevention, and mitigation practices.

- Conducted approximately 80 produce safety risk assessments, resulting in increased awareness of sound produce safety practices and protection, prevention, and mitigation against future produce outbreaks and foodborne illness.

- Conducted approximately 90 Right-to-Farm inspections resulting in verification and assistance for producers to follow Generally Accepted Agricultural and Management Practices (GAAMPs).

- Conducted approximately 80 bulk storage inspections resulting in protection, prevention, and mitigation against bulk agrichemical spills.

USDA/ Rural Development, Rural Business-Cooperative Service (USDA RD):
o   Rural Development conducted operations and maintenance (O&M) reviews of approximately 1/3 of its borrowers to assess the condition of its borrowers' electric systems. These reviews help ensure that America's rural electric cooperatives devote the necessary resources to their O&M programs to maintain the ability to provide affordable and reliable electric service to actors within the FA sector.

Private Sector:
o   The ASIS Food Defense and Agriculture Security community, in partnership with the Food Defense Consortium, convened a working group to reassess the existing food defense mitigations strategies database with the intention of supporting updates to this important resource. A strategy was devised - which includes publication of these findings - with a timeline for completion of this effort of end Q3 2024.

o   The sector conducts external assessments of cyber and other IT risks every other year aligning to the NIST Cyber Security Framework. These assessments help inform our continually evolving resiliency roadmap.

o   In FY2023, the sector worked to understand all-hazard risks through focused virtual discussions, analytical reporting, and other communication channels.

o   As part of our ongoing risk management processes, we continued to assess a wide variety of risks to the organization and the broader Food and Ag sector, most significantly, the risk associated with the geopolitics of technology and the risk of regional isolation from a technology perspective.

Goal 4: Support Response and Recovery at the FA Sector Level

Federal sector members leveraged their available resources to maintain an active participation in major ongoing response and recovery missions throughout the year, related to human and animal disease. At the same time, they worked to strengthen their ability to collaborate and respond to potential threats. Partners also carried out beneficial capacity-building efforts, meant to improve SLTT and private sector planning and response capabilities.

USDA/Animal and Plant Health Inspection Service (APHIS):
o   APHIS invested more than $10 million of American Rescue Plan Act funding to establish a New Wildlife Disease Diagnostic Laboratory at the National Wildlife Research Center. The new lab supported four (4) publications in FY2023 and will have the ability to support future One Health response needs, expanding APHIS' diagnostic and response capabilities.

o   APHIS established a multi-year agreement with Tribal Organizations to deliver Tribal emergency preparedness and response trainings. These focus on improving Tribal awareness regarding animal and plant health emergencies and response capabilities for SARS-CoV-2 and other diseases that have the potential to impact agricultural production, availability, and food

sovereignty. They will also assist Tribal Nations in creating their own animal and plant health emergency response plans to strengthen our nation's preparedness and ability to identify threats early.

o   APHIS has collected 27,746 samples from wild birds for HPAI surveillance testing.

o   APHIS responded to a HPAI outbreak, with the goal of stamping out the disease, and minimizing trade impacts. In FY2023, APHIS confirmed HPAI in 172 poultry premises and 178 non-poultry flocks across 45 states, including testing of 579 diagnostic samples. APHIS completed 8,815 sequencing attempts, produced 7,065 whole genome sequences (WGS), and released over 1,064 sequences to the Global Initiative on Sharing Avian Influenza Data.

o   APHIS activated 95% of NAHLN laboratories approved to test for Influenza A Virus – Avian, providing more than 100,000 PCR tests in support of the HPAI outbreak in FY 2023 and almost 245,000 PCR tests over the extent of the 2022 outbreak. Provided approximately $2.5 million to NAHLN laboratories for reimbursement for outbreak testing.

o   APHIS oversaw the Emergency Use approval of an existing HPAI vaccine for California condors, a critically endangered species. APHIS provided the policy document that outlines the requirements for the restricted use and oversight of the HPAI vaccine use. The APHIS Condor Vaccination Support Group included members from APHIS, and the Agricultural Research Service (ARS) to provide logistics, laboratory, and surveillance input and limit vaccine use as approved by the APHIS Administrator. The U.S. Fish and Wildlife Service (USFWS) Condor Vaccination Working Group, which has authority for the care and management of the California Condors, is responsible for writing and implementing the vaccination plan and record keeping requirements defined by APHIS.

o   APHIS coordinated responses on HPAI to maintain market access and minimize trade and production impacts by proactively working to establish controls and protocols and providing timely communication. As a result, the loss in value of monthly U.S poultry meat exports is less than one-half for the 2022-2023 HPAI outbreak compared to the 2014-2015 HPAI outbreak, despite 2022-2023 outbreak being over twice as long in duration (a decrease of 19.8% from December 2014 to June 2015 compared with a decrease of 8.9% for February 2022-February 2023).

o   APHIS continues to maintain the ASF Protection Zone and conducted Enhanced ASF Surveillance activities, including on-farm and slaughter surveillance testing in Puerto Rico. In FY2023, conducted 10 foreign animal disease investigations, on nine (9) premises, with 135 samples sent for testing; submitting 3,613 on-farm samples for diagnostic testing, from 353 premises; and submitting 2,633 slaughter samples for diagnostic testing, from 17 premises.

o   APHIS deployed and delivered critical supplies and equipment to support both HPAI emergency response activities and to support enhanced ASF surveillance activities through the NVS.

o   APHIS led construction efforts on 18 miles of game-proof high fencing in South Texas to help control wildlife movement and prevent further Cattle Fever Tick (CFT) infestations in South

Texas and have continued mechanically "topping" Carrizo cane along 140 miles of the Rio Grande River to decrease favorable habitats for CFTs.

o APHIS tested 562,182 samples for the national brucellosis slaughter surveillance plan (NBSSP), which exceeds our fiscal year goal of 350,000.

o APHIS provided oversight and epidemiological support to local State/Federal responses for 20 cases of equine piroplasmosis (in six (6) States) and 72 cases of equine infectious anemia (in 15 States).

o APHIS confirmed Chronic Wasting Disease (CWD) in 721 cervids (587 farmed and 134 wild cervids) and depopulated, indemnified, and tested 446 cervids from two CWD-affected herds in two (2) States utilizing $1,153,982 in indemnity funds.

o APHIS sampled and tested ~26,751 animals for scrapie surveillance and provided ~2M official tags to small ruminant markets, dealers, and new producers.

USDA/ National Institute of Food and Agriculture (NIFA):
o USDA NIFA made 11 awards totaling $3,122,922 through the *Rapid Response to Extreme Weather Events Across Food and Agricultural Systems (A1712)* program addressing topics from wildfires and drought to hurricanes and flooding. Awards were made in ID, NM, KY, MT, FL, LA, CA, and PR. This program seeks applications that focus on critical and urgent solutions in rapid response to extreme weather and disaster impacts on the nation's food and agricultural systems and that clearly describe short-term deliverables, including a plan for their adoption/use.

USDA/Agricultural Marketing Service (AMS):
o AMS participated in the federal Eagle Horizon 2023 exercise that tested USDA and AMS capabilities to support national response activities in a scenario that impacts access to food in a large geographical area. This specifically contributed to USDA Office of Homeland Security's plan to enhance USDA's ability to continue to carry out the Department's Primary Mission Essential Functions in the event USDA experiences a disruption to its operations – a continuity event. In addition, in collaboration with APHIS, this contributed to improvements in MRP's ability perform roles in the National Incident Management System as part of the National Response Framework to prevent, prepare for, respond to, and recover from terrorist attacks, major disasters, and other emergencies impacting the FA Sector.

USDA/ Office of the Inspector General (OIG):
o USDA OIG OI participates in ESF #13 activities in furtherance of providing Federal public safety and security assistance to local, state, tribal, territorial, and Federal organizations overwhelmed by the results of an actual or anticipated natural/manmade disaster or an act of terrorism. In September of FY 2022 and into October of FY 2023, 6 USDA OIG OI Special Agents provided ESF #13 assistance during Hurricane Ian in Fort Myers, Florida where they performed emergency response activities.

FDA/Office of Regulatory Affairs/Office of Regulatory Science (FDA/ORA/ORS)
o From the final quarter of FY2022 through the second quarter of FY2023, FDA/ORA/ORS received and analyzed 71 samples in response to adverse event reports associated with the

consumption of Daily Harvest French Leek & Lentil Crumbles. The samples were analyzed for toxins, poisons, heavy metals, and other potential adulterants. The manufacturer initiated a voluntary recall of this product.

o   From April to July 2023, FDA/ORA/ORS assisted Montana Department of Public Health, CDC, and FDA with their investigation of severe gastrointestinal illness in 51 persons (including two deaths) associated with consumption of mushrooms at a sushi restaurant. FDA used DNA sequencing to demonstrate that the mushrooms were true morel mushrooms and not toxic false morels and ruled out chemical contamination. FDA findings helped to focus the remaining investigation on the incorrect preparation/storage of the mushrooms as the cause of the outbreak. CDC published the details of the investigation in the March 14, 2024, Morbidity and Mortality Weekly Report (MMWR), which showed consumption of raw or inadequately cooked morel mushrooms was strongly associated with the illness.

FDA/Office of Regulatory Affairs/Office of Partnerships (FDA/ORA/OP):
o   FDA and the Centers for Disease Control and Prevention (CDC) signed a Memorandum of Understanding to strengthen food safety in retail environments. The goal of the renewed partnership between the FDA and the CDC is to help reduce the occurrence of foodborne illness in retail and foodservice establishments, as well as aachieve closer alignment of the best practices criteria for foodborne illness surveillance and response. This MOU will help increase the consistency and capacity of retail food protection programs across the country, promote a general culture of food safety, and facilitate continued communication between the FDA and CDC to assist state, local, tribal, territorial, and industry partners.

Michigan Department of Agriculture and Rural Development (MDARD):
o   MDARD sent 22 staff to National Incident Management System (NIMS) All-Hazards Position Specific or Incident Management Team training resulting in increased capacity for MDARD to support response and recovery efforts at the FA sector level.

o   Participated in planning the 2023 Statewide Exercise, Operation Swift Response, which resulted in improved response and recovery at the FA Sector level. Participation in planning resulted in improved relationships, information sharing on FA sector issues, and improved response and recovery plans for catastrophic dam failure and/or flooding events.

USDA/ Rural Development, Rural Business-Cooperative Service (USDA RD):
o   RBCS accepted applications for the new Fertilizer Production Expansion Program (FPEP) (launched in FY2022) and announced 33 projects totaling $116 million. The program supports domestic fertilizer production and security by providing grants to help eligible applicants increase or otherwise expand the manufacturing, processing, and availability of fertilizer and nutrient alternatives in the United States.

o   USDA Rural Development's Electric General Field Representatives (GFRs) communicated directly with Rural Development's borrowers in determining the extent of damage from natural disasters and what repairs the borrowers need to make to reestablish electric service. The GFRs also facilitated the borrowers' submission of financing requests to pay for the necessary repairs needed. This directly resulted in the minimization of time that electric service was disrupted in rural America, which minimize the disruption to actors within the FA sector.

Private Sector:

o In FY2023, the Food Defense Consortium and a student intern from Coastal Carolina University's Intelligence and National Security Studies collaborated on an article in the Domestic Preparedness Journal, "Looking back to look ahead to protect the food supply" to help educate and inform both the private and public sector to aid in response and recovery within the FA sector.

o In FY2023, the sector shared threat intelligence related to a zero-day vulnerability impacting a member company. By sharing these technical indicators, members were able to defend themselves against the threat, weeks before an official disclosure and patch was available by the product vendor. The sector acts as a force multiplier against threats and sharing leads to increased awareness and response.

o As part of our ongoing resiliency program, six (6) crisis exercises were conducted to test and improve our ability to respond and recover to a variety of disruptive threats, including ransomware.

Goal 5: Improving Analytical Methods to Bolster Prevention and Response Efforts, as Well as Increase Resilience in the FA Sector

FA sector partners spent much of the year working to improve existing analytical methods and develop new capabilities to ensure the sector is better prepared to respond to emergency events and will be more resilient should they occur.

Environmental Protection Agency (EPA):

o OCSPP's Microbiology Lab (MLB) continued to be on the forefront of developing and/or improving the various methods used to test the efficacy of antimicrobial products. Efforts include:

- **Legionella:** Draft guidance and methods for treating and maintaining cooling tower water were released for public comment.

- **Fungal Testing:** Scientists from the Mycotic Disease Branch of the Centers for Disease Control and Prevention came to MLB's lab to be trained on MB-35-03 (Quantitative Method for Evaluating the Efficacy of Antimicrobial Products against Candida auris on Hard, Non-Porous Surfaces) and to discuss the QM for Fungi, concentrating how to grow Trichophyton.

- **Residual Method:** The final guidance, test methods, and response to comments were posted to the docket and webpage.

- **Soft Surface Textiles Methods and Guidance:** Revised Products Including or Adding Disinfectant Efficacy Claims for Use on Soft Surface Textiles in Non-Residential Settings guidance and methods (formerly known as porous surfaces) was finalized and released.

- **Virology Testing:** Completed the in-house decontamination of the Biosafety Level 3 laboratory used for testing SARS-CoV-2 using a vaporous hydrogen peroxide generator. Continued to prepare manuscript comparing the outcome of efficacy evaluation of CoV-2/229E.

o OCSPP's Analytical Chemistry Lab continued to be on the forefront of developing and/or improving the various methods and supporting other activities. Efforts include:

- **Bee Colony Loss:** provided analytical support to USDA in determining possible causes to bee colony losses. A total of 320 samples of bee carcass, bee wax, bee pollen and honey were received and analyzed for presence of pesticides.

- **Per – and Polyfluoroalkyl Substance (PFAS):** provided analytical support related to the emerging PFAS contamination issue in pesticide products and associated with container fluorination. To this end, it developed and issued three analytical methods for PFAS in different media.

FDA/Office of Regulatory Affairs/Division of Food Defense Targeting (FDA/ORA/DFDT)
o DFDT created the Imports Risk Analysis and Surveillance (IRAST) team to broaden FDAs research, analysis and signals identification related to imported food, feed, and other commodities. The team enhances FDA's ability to target for adulterated and misbranded food and feed imports and respond to threats using emerging technologies, such as artificial intelligence and machine learning for risk analysis and predictive modeling. The team also includes an intelligence specialist that conducts real-time investigative intelligence research and analysis of intelligence to create risk reports and other outputs in support of FDAs food and feed program.

FDA/Office of Regulatory Affairs/Office of Regulatory Science (FDA/ORA/ORS)

o In FY23, FDA led a multi-lab matrix extension of Loop-Mediated Isothermal Amplification (LAMP) for Salmonella Detection in Human Foods under the LFFM. Nine state laboratories participated. The results for 23 of 27 matrices were accepted and will be published in the BAM.

o In FY23, 12 LFFM laboratories participated in a multi-laboratory study for a total radiostrontium method utilizing multiple technologies. The project was led by the University of Iowa Hygienic Laboratory. This project expands network capability and preparedness for future incident responses requiring rapid radiostrontium evaluation. LFFM Laboratories evaluated three different FDA regulated commodities including leafy greens, milk, and grains (rice). Results from this study are still being evaluated, however preliminary results are very promising.

o In FY23, 12 LFFM l laboratories participated in a multi-center study to verify three FDA food matrices for the detection of *Clostridium botulinum* Neurotoxin (CBotNT). This method was verified to increase the testing availability for CBotNT to assist investigations into clinical cases of botulism intoxication in foods. Data from this study is being compiled and will show increased capability for this new technology for the detection of CbotNT.

o The FERN Methods Coordination Committee (MCC) approved two methods in FY23: CHE0009 (equivalent to EAM 4.7, updated to include Tungsten and Thallium), CHE0008 (Poison and Toxin screen, updated to include poultry products) In FY23, FDA/ORA/ORS scientists lead the effort to plan and execute a multi-laboratory validation of FDA's Elemental Analysis Manual Method 4.4: Inductively Coupled Plasma-Atomic Emission Spectrometric Determination of Elements in Food Using Microwave Assisted Digestion (EAM 4.4). An outward facing SharePoint page was configured to facilitate the collaboration among the FDA CFSAN/ORS, participating FDA ORA/ORS laboratories, and LFFM laboratories. Preliminary samples were sent out mid-FY23 and several labs (ORA and LFFM) had submitted preliminary results by the end of FY23, with additional data being submitted in FY24.

o During FY2023, a group from ORA, CFSAN, and CVM evaluated the FERN-MIC.00026.01 method, "Detection of Clostridium botulinum neurotoxins A, B, E, and F in food using MALDI-TOF Mass Spectrometry" as an alternative for the diffusion-in-gel-enzyme linked immunosorbent assay (DIG-ELISA) that is nominally the current method used by FDA but is no longer feasible due to discontinuation of the necessary kits. This group conducted a thorough review of the method, its validation, factors affecting its potential implementation at FDA, and provided a report within approximately six weeks.

o FDA ORA/ORS maintained an active research portfolio in method development and validation targeting various analytes in regulated food products. ORA/ORS labs pursue 20-30 different projects a year focused on foods related research and produce 10 – 20 peer-reviewed publications annually. The active research portfolio promotes operational readiness and preemptively adds methods to enhance the analytical toolbox based on horizon scanning of emerging threats.

Michigan Department of Agriculture and Rural Development (MDARD):
o MDARD participated in planning the 2023 Statewide Exercise, Operation Swift Response, which resulted in improved emergency GIS capability at the department level. Planning and preparation throughout FY2023 included improving data sets and requesting mechanisms. MDARD participated in four tabletop exercises in FY2023 to prepare for the functional exercise was held in FY2024.

Private Sector:
o In FY2023, the sector leveraged our ransomware tracker to monitor for ransomware trends and report to members via a monthly ransomware report. In the report we highlight leading ransomware groups, evolving tactics, and a sector-by-sector breakdown of ransomware activity. These activities allowed companies to bolster their prevention and response efforts, by keeping them informed of the latest threats and tactics these groups were known to employ.

o As part of our ongoing threat management program, an analytical model that creates a mapping of all Preventive, Detective and Responsive controls across the enterprise to the MITRE ATT&CK Framework overlaid to the TTPs of the primary adversaries we track.

National Institute of Standards and Technology (NIST) Framework for Improving Critical Infrastructure

The sector continued its efforts to publicize and implement the NIST Framework for Improving Critical Infrastructure among SLTT and private sector partners, to gauge efforts made to implement the framework, both now and in the future, and to determine how implementation has impacted sector members.

USDA/Animal and Plant Health Inspection Service (APHIS):
o   MRP ITD remains committed to the NIST Framework by ensuring that risk is reduced to the extent possible through the assessment and authorization process for all known systems. Additional federal and contract resources have been added to the Cybersecurity Directorate, which has allowed for more proactive identification of vulnerabilities as well as both incident response and overall data protection capabilities. The newly added penetration testing services has continued to be a great success. Five (5) penetration tests were able to be completed in FY2023, taking an in-depth look at our applications from the point of view of an advanced hacker trying to attack our systems. The resources that have been added to this team have been invaluable both from ensuring an additional layer of testing of the NIST controls, but also in educating the programs responsible for these applications. This service has allowed for a partnership to be formed to ensure continued testing and remediation guidance can be provided. As more systems are tested, we can ensure increased security controls are implemented to support the mission within the FA Sector.

USDA/ Food Safety and Inspection Service (FSIS):
o   Encouraged adoption in the Food and Agriculture sector of best practices from the NIST Framework on phishing and ransomware by posting them on their food defense web page and sharing the information with FSIS-regulated establishments through in-plant inspectors.

Michigan Department of Agriculture and Rural Development (MDARD):
o   Identified risk within the department, including completion of a department wide risk heat map and incorporation of risk into department strategic initiatives.

o   Communicated and shared cybersecurity messages, requirements, and alerts with stakeholders through various messaging methods.

o   Conducted routine cybersecurity awareness training with employees.

o   Implemented an improved hardware and software inventory system to track who and where devices are within our agency.

o   MDARD is in the process of implementing the NIST Framework. MDARD is actively assessing all applications systems security plans with the NIST privacy framework as the basis. NIST is also now incorporated our statewide system for system security plan development for all active applications.

o   Under the element of Protection, MDARD's overall technology is protected from cyber threats by a content delivery network (CDN) that ensures the security, integrity, and reliability of IT infrastructure, applications, websites, and APIs. State of Michigan enterprise

infrastructure is monitored 24/7 for threats to operations and remediation if needed.

o MDARD is continuing system security plan development for active software applications, improving asset management tracking, and have updated and improved security policies with the NIST framework in mind.

USDA/ Rural Development, Rural Business-Cooperative Service (USDA RD):
o USDA RD's Electric Programs is mapping its borrowers' service areas in a GIS/GPS format. The mapping allows Rural Development to extract data concerning its borrowers' electric systems, which will allow RUS-EP to analyze and mitigate the potential impact climate change may have on RUS-EP's investments. This information will facilitate RUS-EP working with its borrowers in identifying and implement necessary improvements that will make the electric grid in rural America less susceptible to natural disasters.

USDA/ Office of Inspector General (OIG):
o USDA OIG ITAO has measured adoption in the Food and Agriculture sector of the following standards, guidelines, and best practices from the NIST Framework in the following ways, by conducting engagements that tested the Department's compliance with the following NIST guidance:
   • NIST SP 800-53, Revision 5, Security and Privacy Controls for Information Systems and Organizations; NIST SP 800-53A, Revision 5, Assessing Security and Privacy Controls in Information Systems and Organizations; and NIST SP 800-115, Technical Guide to Information Security Testing and Assessment (September 2008).

Private Sector:
o The sector leverages the NIST CSF to measure our security program maturity and conduct an annual NIST assessment to track progress and alignment to threats. This has helped us to identify key gaps in our cyber security posture, budget for projects, and implement processes and tooling to close those gaps.

o The NIST CSF has enabled a means of communicating cyber security maturity up to the board level in a way that enables clarity and alignment to ensure necessary resourcing is committed to supporting the security of the organization.