



2022 Sample Team Exercise

After-Action Report/Improvement Plan

February 22, 2023

Table of Contents

Acknowledgements and Points of Contact	2
Executive Summary	3
Purpose, Scope, and Background.....	5
Planned Goals and Objectives	5
Planning Process and Session Summaries	7
Overview of Planning and Execution	7
March 31, 2022 – Rockford: Balsam Woolly Adelgid Survey	9
April 13, 2022 – Clawson: Mushroom and Convenience Store Sandwich Sampling	10
May 11, 2022 – Traverse City: Cheese Sampling.....	11
May 25, 2022 – Hillman: Asian Longhorned Beetle Survey	12
June 8, 2022 – Marquette: Cheese Sampling.....	13
June 22, 2022 – Marshall: Avian Influenza Response	14
July 13, 2022 – Bay City: Pet Food Sampling.....	15
August 3, 2022 – Lansing: Melon and Disinfectant Sampling and Methomyl Cyber Command	16
August 24, 2022 – Taylor: Radiological Emergency Preparedness and Ingestion Pathway Sampling	17
September 21, 2022: Mason: Avian Influenza Response	19
General Discussion.....	19
Recommendations	23
Improvement Plan.....	24
Appendix A: Exercise Incident Management Teams Organizational Charts	25
Appendix B: Sample Agenda	33
Appendix C: Participating Organizations	34
Appendix D: Acronyms.....	35

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Executive Summary

Purpose and Scope: This report summarizes key goals, planning, activities, results, successes, and areas of improvement from the Michigan Department of Agriculture and Rural Development's (MDARD's) 2022 Sample Team Exercise (STE). It analyzes information collected during the exercise and supports development of corrective actions. Results were evaluated from three perspectives: 1) exercise planning and execution, 2) employee engagement, and 3) MDARD Sample Team and emergency response capacity development.

This report is a compilation of information from MDARD staff who planned, delivered, and participated in the MDARD 2022 STE. The STE occurred at locations around Michigan from March 31 – September 21, 2022.

Summary of Key Issues: The 2022 STE was a milestone year for several reasons. It built on several years of growth in emergency response experience and capacity. Scenarios included invasive species detections and plant health surveys, foodborne illness outbreaks and sampling initiatives, a radiological emergency and field sampling of crops, milk, water, and soil, and response to Highly Pathogenic Avian Influenza (HPAI). It was a landmark year that tested the department's ability to respond while building skillsets and confidence in individual staff members.

Background and Coordination: From March to September 2023, the STE Planning Team and ten Incident Management Teams (IMTs) used the Incident Command System (ICS) Planning P to create an Incident Action Plan, plan simulated emergency responses, and train MDARD field staff to accomplish emergency tasks. The Planning Team and IMTs consisted of staff across MDARD.

Strengths:

- There was an overall improvement in execution since the 2019 STE. The 2022 STE was more complex in several ways, and a significant number of participants noted improvements from previous years.
- The exercise provided an opportunity for staff to try new ICS roles, observe the planning process, and mentor others as they learned new roles and skills.
- Each session was an opportunity for IMT members to learn more about ICS and the Planning P. IMT members said they understood ICS better, saw its usefulness in bringing order out of chaos, and felt more confident about future emergency response.

Areas for Improvement:

- Continue to recruit and provide opportunities for ICS training that align with department- and division-wide priorities.
- Utilize STE as an opportunity to expand emergency management (EM) and ICS coaching and mentoring throughout the Department. Consider partnering with the Quality of Life (QOL) Mentoring Program to identify individuals to coach and improve emergency response skillsets.
- Payment for samples, both purchased in person by a Sampling Team member and with a procurement card by Cyber Command, needs to be improved. Some samples come with a high out-of-pocket cost. Consider a department procurement card or other pre-paid options to be used for "sting" operations such as Cyber Command.
- Utilize Geographic Information System (GIS) technology to enhance data quality, collection efficiency, and mapping capabilities. Purchase and distribute GIS licenses

across divisions for even distribution of technology. Provide training opportunities to expand staff skillsets and expertise. MDARD Divisions are encouraged to contact the MDARD GIS Team about license allocation and training opportunities.

Recommendations/Improvement Plan:

- MDARD should hold at least one IMT functional or full-scale exercise each calendar year.
- MDARD Divisions are encouraged to train and engage with partners using STE concepts that can be scaled to the needs of the group.
- The MDARD EM Program will continue to update and create material to assist staff across the department during emergency responses and IMT activations.

Background

MDARD maintains the capability to conduct large scale emergency activities requiring just-in-time training and deployment of field staff through its Sample Team. The Sample Team consists of a pool of staff from all divisions within the Department. Field staff are the primary group who take actual samples, but mobilization requires support from the whole organization. MDARD uses ICS and its principles to manage any incident requiring deployment of the Sample Team.

All MDARD personnel receive regular training in the various components and types of sample collection through divisional in-services and specialized courses. Multi-divisional STEs are coordinated by the Office of Legal Affairs and Emergency Management at least every third year, with real-world incidents counting towards this effort. Because of the complex nature of STE series, they are typically held every three years at locations around the state. Typically, they are a full day event with an opportunity for field staff to meet the Department Director and Executive Office (EO) staff, deliver training to all staff on safety and emergency management, and practice Sample Team concepts.

When planning the STE series, the planning team sets several overarching goals and objectives. They are designed to align with various Department priorities. For instance, while the primary goal is to increase emergency response capacity, the exercises also strive to increase employee engagement, emphasize safety, build relationships with partners, and identify new ways to use technology.

Planned Goals and Objectives

Goals

1. Improve employee engagement, communication, and interaction
2. Improve the Department's ability to respond to emergencies through building surge capacity and improve abilities to manage a large, complex incident
3. Improve use and understanding of ICS and apply knowledge gained from introductory and advanced ICS courses
4. Identify and utilize technology to improve response
5. Advance safety assessment skills in potential high-pressure situations
6. Improve coordination & communication with the US Food and Drug Administration (FDA) and other federal, state, and local partner agencies
7. Practice real world scenarios to receive, process, and test a range of products for a variety of concerns to demonstrate core capabilities, evaluate risk in the marketplace, and prepare for all hazards testing and sampling scenarios

Objectives

1. Create:
 - a) Venues around the State of Michigan for multi-divisional MDARD field staff to meet, interact, and receive training

- b) An opportunity for the Director and Executive Office to meet with field staff and exchange information
 - c) Opportunities for staff at all levels to use ICS and Incident Management Team (IMT) roles for leadership and management development
1. Test capabilities to:
 - a) Activate IMTs
 - b) Provide just in time/cross training
 - c) Accomplish a task, simulating core activities necessary to respond to many threats and hazards including documentation and chain of custody
 - d) Provide instruction on finance & administration procedures and achieve consistent accounting of time and expense
 2. Facilitate:
 - a) Emergency Management leads from across the Department to jointly prepare ICS plans, practice delivery of just in time training, and evaluations
 - b) Use of ICS principles and IMTs to generate Incident Action Plans (IAPs) for each venue
 - c) Engagement of Lansing office & Laboratory staff to fulfill or shadow roles they might have in a real emergency, particularly in Finance and Logistics
 - d) Safety planning and preparedness
 - e) Collection of a variety of samples from the marketplace for pathogens, drugs, pesticides, or other contaminants for testing, and training for all hazards response, including bio-security provisions and plant pest detection
 - f) Effective hotwashes to evaluate each exercise and identify successes so they can be repeated in the future
 3. Provide:
 - a) Safety training covering personal safety and de-escalation techniques to staff, and
 - b) Briefing on exercise subject matter and ICS principles to staff
 4. Test procedures for collecting samples including:
 - a) Chain of custody
 - b) Conducting recall audit checks and traceback/trace-forward investigations
 - c) Documentation
 5. Engage with partner agencies

Planning Process and Session Summaries

Overview of Planning and Execution

In October 2021, the EO identified a planning team with representatives from various MDARD divisions to plan and execute the 2022 STE. The strategy was to plan and execute unique sessions at locations around the state, using the ICS Planning P, ICS principles, and actual operational briefings and operational assignments at each session. Initially, nine sessions were planned, and a tenth session was added in mid-2022 to accommodate increased demand. The planning team was led by the Office of Legal Affairs and Emergency Management, with Brad Deacon, Emergency Management Coordinator acting as the primary exercise sponsor, Elizabeth Zay, Deputy Emergency Management Coordinator acting as the lead Exercise Coordinator, and Jamie Guardiola, Emergency Management and Legal Affairs Analyst, acting as lead Logistics Coordinator.

Due to the COVID-19 pandemic, the planning team identified new considerations for executing the exercise, including booking larger training rooms, allowing for social distancing and personal comfort levels of employees riding in vehicles with others, special verbiage on use of facial masks, and contingency planning for unexpected absences of key team members.

The STE Planning Team developed this exercise to meet the following priorities:

- Utilize ICS principles throughout the exercise series and increase training opportunities on use of the Planning P
- Develop realistic and plausible scenarios that differ from prior years, including expanding assignments and tests of increased capacity
- Ensure exercise materials and assignments are applicable to all participants
- Coordinate with the Geagley Laboratory on testing of samples

The morning of each STE session consisted of a welcome and question and answer session with the Director, one-hour Verbal Judo session, and an emergency management and ICS overview. Structuring the first half of the day as a staff meeting creates an opportunity for the Director to engage with field staff and deliver important safety and situational awareness training to all attendees.

During the 2019 STE, all IAPs were created by the planning team and IMTs were provided with them prior to the exercise. The Planning P cycle was fully simulated and the IMT presented the Operations Briefing to field teams at each session. While this was an opportunity to become familiar with some aspects of emergency response, IMTs did not have receive the hands-on training of building an IAP.

The 2022 STE planning team noted an increase in MDARD staff trained in intermediate and advanced ICS and wanting more hands-on experience with the ICS Planning P. The planning team coordinated a Planning P cycle for each exercise, with each IMT creating the IAP for their session. The planning team coordinated key logistics for each exercise, including arranging the facility, registration list, participant assignments, and planning for refreshments and meals. Each IMT was responsible for creating the IAP, delivering just-in-time training, and managing operations at each exercise.

For the first 2022 STE Session in March, Planning P meetings were attended by the Incident Commander (IC), Planning Section Chief (PSC), Operations Section Chief (OSC), and Logistics

Section Chief (OSC). Other team members said would have liked to observe the Planning P meetings, so the Planning P cycle became an optional experience to all other IMT members in subsequent sessions.

In the two weeks prior to each session, the STE planning team hosted the Planning P cycle. It served to: 1) acclimate the IMT to ICS, 2) offer a coached opportunity to create an IAP, and 3) create opportunities for staff and partners to observe the process. The following meetings were held:

- Background, Introductions, and Review of the Planning P
- Command & General Staff Meeting
- Tactics Meeting
- Planning Meeting
- Operations Briefing Rehearsal

The Planning P meetings were improved with each exercise session. Sometimes the meetings were combined due to scheduling difficulties. Throughout the series, the planning team observed successes that were directly attributed to the meetings and heard positive feedback from participants. It should be noted that some participants said it was difficult to manage extra meetings with their routine work.

At each STE session, the planning team facilitated a discussion for the IMT with “inject” questions designed to help participants think about their ICS roles during an emergency response. These discussions were held virtually for the Marshall, Taylor, and Mason IMTs because teams were not deployed into the field at those sessions. Planners noted in-person discussions were more effective than virtual sessions.

Questions included topics such as a field team getting into a car accident, a staff member getting bit by a dog, a field team finding filth and violative conditions at a sampling location, and a reporter wanting to conduct an interview inside the Incident Command Post (ICP). These discussions were rich, often leading to a 20-minute discussion on all of the coordination needed to manage a single issue. Feedback on this portion of the exercise was overwhelmingly positive.

Overall, there was a significant increase in staff participation in planning each exercise since 2019. Spreading the work across more team members created more time for planners to coach participants. Throughout the exercise, the EM program identified many talented staff across the department who, with their supervisors, should consider more ICS training and emergency response opportunities.

March 31, 2022 – Rockford: Balsam Woolly Adelgid Survey

Participants

- 54 total
- 21 IMT, Agency Administrator (AA), or exercise staff
- 1 external (USDA-Plant Pest Quarantine [USDA-PPQ])

Overview

Balsam woolly adelgid (BWA), or *Adelges piceae*, is an insect that can infest fir trees, including balsam, fraser, and concolor (white) fir in forests and landscapes in Michigan. As the third largest Christmas tree-growing state in the country, Michigan produces nearly 13.5 million fir trees each year, grown on over 11,500 acres. True fir trees, including forest, landscape, and Christmas trees, are susceptible to the pest, which can weaken trees and over time, cause them to die.

To date, a single infestation of BWA has been found in Michigan, near Rockford in Kent County. In the very first STE session focused on a plant pest emergency response, the IMT planned a survey of fir trees in the Rockford area to search for evidence of BWA.

The IMT planned a survey of known fir trees in the Rockford area, expanding the area that has been surveyed for BWA. A combination of ArcGIS applications and paper and pencil methods were selected to record survey information. The Operations Section Chief (OSC) and GIS Unit Lead prepared just-in-time (JIT) training materials on context and impact of the pest, signs and symptoms in fir trees, how field surveys work, GIS applications, and documentation requirements.

Successes

- This was the first time an STE IMT used the Planning P to plan the exercise and complete an IAP. Only key members of the IMT participated in these pre-meetings, and all other IMT members said they would have liked to see and/or participate in that part of the process.
- As expected, ArcGIS Field Maps, compared to paper and pencil, performed well as a data collection method. GIS tools should be prioritized and used to the fullest extent possible in future responses and exercises.
- This was the first plant pest scenario at an STE. Many participants said they appreciated learning about what that portion of MDARD's Pesticide and Plant Pest Management Division (PPPM) does.

Areas for Improvement

- Provide sample bags of appropriate thickness for the sample being taken.
- Consider distance from the Incident Command Post to ensure field teams need similar amounts of time to complete their assignments.
- During the JIT training, include more information on tree identification to ensure field teams are surveying the correct types of trees.

Notable Results

This was the first time a plant health scenario was used for STE. It was an important opportunity to educate MDARD field staff on the importance of plant health and invasive species to our environment and plant industries. The survey expanded the vulnerable area surveyed for the invasive pest and yielded no detections of BWA.

April 13, 2022 – Clawson: Mushroom and Convenience Store Sandwich Sampling

Participants

- 37 total
- 13 IMT, AA, or exercise staff
- 2 external (Oakland County Health Department)

Overview

In 2020, the U.S. Centers for Disease Control (CDC) investigated the first known *Listeria* outbreak in the United States linked to enoki mushrooms. This outbreak resulted in three recalls of enoki mushrooms imported from Korea. Since then, the FDA, MDARD, and several other states have been collecting samples of enoki mushrooms, finding *Listeria* in many samples, resulting in more than 20 recalls of the mushrooms.

In 2020, *Listeria* was detected in convenience store sandwiches distributed by a Michigan distributor. It resulted in a large recall of convenience store sandwiches sold in food service and retail stores throughout Florida, Illinois, Indiana, Kentucky, Maryland, Michigan, Ohio, Pennsylvania, Tennessee, West Virginia, and Wisconsin.

To continue evaluating risk in the marketplace, this STE session focused on collection of samples of convenience store sandwiches and enoki mushrooms from a variety of retailers.

The IMT planned for collection of samples from gas stations, convenience stores, and grocery retailers around the Clawson area. Sample collection kits, including sample bags and forms, were assembled to streamline supply issuance to teams. The OSC prepared and delivered JIT training to teams, explaining the significance of the mission, how to complete forms, and a demonstration of how to collect a sample.

Successes

- JIT training was appropriate length, amount of detail, and included a demonstration of how to take and package a sample.
- After lessons learned at the Rockford session, improvements were made to accountability and logistics processes. Separate sign-in sheets for staff entering and leaving the ICP, sample collection kits, and simplified resource checkout were notable improvements.

Areas for Improvement

- Southeast Michigan STE sessions tend to have a lot of FDD field staff in attendance, and many commented that they would like to exercise a scenario that isn't food related.
- IMT deputies and assistants said they would have liked to be more involved in creating the IAP.

Notable Results

All samples (mushrooms and convenience store sandwiches) were negative for all three pathogens (*Salmonella*, *E. coli*, and *Listeria*).

May 11, 2022 – Traverse City: Cheese Sampling

Participants

- 33 total
- 10 IMT, AA, or exercise staff
- 2 external (District Health Department #10)

Overview

In April 2022, the French Agency for Food, Environmental and Occupational Health and Safety announced the results of a study of bacterial hazards associated with raw milk cheeses and other products made from raw milk cheeses. In the U.S., there have been high-profile outbreaks related to soft cheeses in the U.S. One outbreak linked to *Listeria monocytogenes* in queso fresco cheese resulted in 13 infected people in four states, including four pregnant women and one death.

To continue evaluating risk in the marketplace, this session focused on collection of samples of soft cheeses in the Traverse City area.

The IMT planned for collection of a variety of soft cheese samples from a variety of retailers. Sample collection kits, including sample bags and forms, were assembled to streamline supply issuance to teams. The samples needed to be kept cold, which was an additional logistical consideration. The OSC prepared and delivered JIT training to teams, explaining the significance of the mission, how to complete forms, and a demonstration of how to collect a sample.

Successes

- The planning team and agency administrators had an opportunity to discuss the correct procedure to collect a cheese sample in a retail setting.
- Having a packet with additional information and background to give to retailers was helpful.
- Example sample forms were especially helpful for team leaders from the Dairy program who don't often collect samples in retail settings.

Areas for Improvement

- Some participants said they would have liked a more challenging scenario. FDD samplers indicated they would have liked a scenario that didn't involve picking up samples at retail.
- Educating sampling teams on the definition of a soft cheese was difficult. The IMT fielded a lot of questions about the right types of cheese to collect. Future planners should consider a pick list of products and utilizing technology to limit duplicate samples.
- Include more training on how to complete a Chain of Custody form.

Notable Results

All samples (cheeses) were negative for all three pathogens (*Salmonella*, *E. coli*, and *Listeria*).

May 25, 2022 – Hillman: Asian Longhorned Beetle Survey

Participants

- 37 total
- 15 IMT, AA, or exercise staff
- 1 external partner (Michigan Department of Natural Resources [MDNR])

Overview

The Asian longhorned beetle (ALB; *Anoplophora glabripennis*) is an invasive wood-boring insect that feeds on a variety of hardwoods including maple, birch, elm, ash, poplar, horsechestnut, and willow, among others. It is native to China and Korea, but it has been detected in four states: New York, Massachusetts, Ohio, and South Carolina.

Maple trees are ALB's favorite host. More than 1 billion maple trees grow in Michigan. If an ALB infestation is found in Michigan, federal and state officials will begin survey and response activities, including removing and destroying all infested trees.

Successes

- This was the second plant health survey scenario. Repeating a similar scenario allowed the IMT to build on successes and areas of opportunity from the previous session.
- Participants said they were excited to be an extra set of eyes to detect or prevent the introduction of invasive species in our state.
- The exercise was timely. A different invasive pest, spotted lanternfly, was detected in Michigan in August 2022.

Areas for Improvement

- Some participants said they would have liked the scenario to be more complex.
- Some participants said they would have liked to have more tasks to complete in the field.

Notable Results

This was an important opportunity to educate MDARD field staff on the importance of plant health and invasive species to our environment and plant industries. This survey expanded the vulnerable area MDARD's Plant Health program has searched for the invasive pest. The survey yielded no detections of ALB.

This was a second opportunity in the 2022 STE for Plant Health staff to practice using ICS, which was useful when spotted lanternfly was detected in Oakland County. The IMT activated for spotted lanternfly said STE set them up for success.

June 8, 2022 – Marquette: Cheese Sampling

Participants

- 18 total
- 8 IMT, AA, or exercise staff
- 2 external (Western Upper Peninsula Health Department, Chippewa County Health Department)

Overview

This session was a repeated scenario and focused on collection of samples of cheeses in the Marquette area.

The IMT planned for collection of a variety of cheese samples from a variety of retailers. Sample collection kits, including sample bags and forms, were assembled to streamline supply issuance to teams. The samples needed to be kept cold, which was an additional logistical consideration. The OSC prepared and delivered JIT training to teams, explaining the significance of the mission, how to complete forms, and a demonstration of how to collect a sample. To reduce the complexity of choosing samples and broaden the marketplace surveillance, all types of cheese were collectable.

Successes

- This was the smallest of the 2022 sessions. Upper Peninsula (UP) field staff are more geographically dispersed than the rest of the state, so it is a unique opportunity for UP staff across all divisions and programs to meet.
- At this session, the Traverse City cheese scenario was repeated. Through the 2022 STE, repeated scenarios allowed IMTs to build on successes and areas of opportunity from the previous session.
- FDD field supervisors and program managers participated as field team leaders, allowing them to get into the field, test procedures, and collect samples.

Areas for Improvement

- Sample bags were too big for the samples field teams were collecting.
- If collecting samples that require temperature monitoring, detailed instructions and training is needed to ensure sample integrity.

Notable Results

All samples (cheeses) were negative for all three pathogens (*Salmonella*, *E. coli*, and *Listeria*).

June 22, 2022 – Marshall: Avian Influenza Response

Participants

- 58 total
- 17 IMT, AA, or exercise staff
- 6 external (Calhoun County Health Department, Kalamazoo County Health & Community Services, Michigan Department of Health & Human Services [MDHHS], MSP-EMHSD, National Weather Service [NWS], Ottawa County Health Department)

Overview

Avian influenza (AI) is caused by an influenza type A virus which can infect poultry (such as chickens, turkeys, pheasants, quail, domestic ducks, geese, and guinea fowl) and wild birds (especially waterfowl). Highly pathogenic avian influenza (HPAI) virus strains are extremely infectious, often fatal, and can spread rapidly from flock to flock. Unfortunately, 2022 has been a record year for HPAI in the US and across the world. Michigan was impacted, responding to detections in several backyard flocks and a commercial turkey operation in Spring and Fall 2022. MDARD's IMT resources were activated throughout the year to plan for, respond to, and manage cases of HPAI. By the end of spring 2022, more than sixty MDARD personnel had supported the MDARD Animal Industry Division (AID) IMT. In contingency planning for worst case scenarios, planners knew that MDARD staff from across the department could be needed for an effective response.

This was the first of two sessions focusing on HPAI response.

The IMT planned a day with onsite activities to practice donning and doffing PPE, the concept of using a clean/dirty line, and collection of simulated "dead birds" for necropsy. The OSC prepared and delivered JIT training to teams, explaining the significance of the mission, how to complete forms, and a demonstration of how to don and doff PPE. High temperatures that day required an additional focus on health and safety.

Successes

- The training was relevant, interesting, and kept participants engaged.
- HPAI was a relevant and timely scenario, which helped participants see how they might fit into a response.
- The training provided an opportunity for some staff to don and doff Tyvek suits and other PPE for the first time.

Areas for Improvement

- Participants suggested adding pre-work to prepare for their roles. More time could be spent on how to complete paperwork, which would be a significant part of their assignment.

- Field teams were not deployed into the field to actual sampling locations; sampling was simulated onsite. Additional planning of timing and traffic flow between stations is helpful to minimize bottlenecks and improve organization.
- Participants suggested showing a video during donning and doffing PPE instruction or having someone explain while someone else physically demonstrates the process. More trainers could have been assigned to assist with field staff donning and doffing Tyvek and other PPE.

Notable Results

This was a timely exercise that was conducted between the Spring 2022 and Fall 2022 HPAI responses. It was the first of two HPAI STE sessions, which allowed for the second IMT to improve upon lessons learned at this session. This was an opportunity to provide training to staff who might be asked to augment real-world response staffing if needed.

July 13, 2022 – Bay City: Pet Food Sampling

Participants

- 51 total
- 18 IMT, AA, or exercise staff
- 1 external (MSP-EMHSD)

Overview

Since 2019, MDARD's Rapid Response Team (RRT) has been part of an ongoing response to *Salmonella* contamination in pig ear dog treats. During the 2019 STE, field teams collected pig ears that tested positive for *Salmonella* and expanded a national recall of the product. While planning the 2022 series, pet treat sampling was an early priority. Pet food safety is critical to both animal and human health.

Successes

- Presentations and JIT training were helpful to participants. Training included relevant background on previous sampling, why this sampling initiative was important, and how to take a sample.
- The exercise was held in a hotel ballroom, which was a suitable, turnkey facility that made it easier for Logistics to focus on coordinating things specifically related to field activities.

Areas for Improvement

- Some participants noted they wanted to see more detailed instructions and just-in-time training, especially in what types of samples to collect and how to collect the sample. Prepare an extra team lead packet for the Operations Section Chief with all information needed to make changes in teams and instructions, including extra forms.
- PPM's paperless method of collecting samples was a hurdle when training other MDARD staff members to collect samples on their behalf. Manual data entry of sample information created a bottleneck during the demobilization process. IMTs should

consider using a standard Inspector Report on Sample (IRS) form, in triplicate or other efficient workaround.

Notable Results

All samples (pet foods and treats) were negative for all three pathogens (*Salmonella*, *E. coli*, and *Listeria*).

August 3, 2022 – Lansing: Melon and Disinfectant Sampling and Methomyl Cyber Command

Participants

- 59 total participants
- 25 IMT, AA, external participants
- 11 external (Kent County Health Department, Livingston County Health Department, Michigan Department of Technology, Management and Budget, MSP-EMHSD, NWS, FDA)

Overview

This was the second largest STE session, providing an opportunity to demonstrate capacity to respond to multiple emergencies at once.

MDARD's Pesticide Program is responsible for regulating pesticides, including disinfectants, in the state. In February 2022, MDARD Director Gary McDowell issued an order classifying methomyl as a restricted use pesticide (RUP). Methomyl is an insecticide with a high acute toxicity. It has a history of misuse that has sadly resulted in many animal deaths by poisoning, including a bald eagle and dogs. After classification as a RUP in Michigan, the MDARD Pesticide Program wanted to determine if out-of-state firms would sell it to Michigan residents without a pesticide applicator certification.

The COVID-19 pandemic has highlighted the importance of effective disinfectants. As part of MDARD's ongoing evaluation of risk in the marketplace, some field teams at this session were tasked with collecting samples of disinfectant sprays and wipes from retail locations.

Michigan's Rapid Response Team (RRT) routinely samples produce and food products. Over the past several years, several outbreaks of foodborne illness have been connected to melons. To collect information that could provide links to previous and future outbreaks, MDARD's Food Program identified melons produced in the Midwest region to sample for bacterial pathogens *Salmonella*, *Listeria*, and *E. coli*.

Successes

- JIT training was clear and organized; field teams were split into functional groups to receive JIT specific to their operational assignments. The venue was large enough to accommodate this and it worked well.
- The Cyber Command team had good communication, instructions, and overcame issues as they arose.

Areas for Improvement

- Whenever possible, use technology to avoid collecting duplicate samples, such as the AnyList app used in the 2019 STE.
- The Cyber Command team needs a better way to purchase samples “undercover.” Using a State of Michigan procurement card to buy samples in a “sting” setting was potentially a tip off to the firms the team was trying to purchase from.

Notable Results

This session had largest number of external participants.

One melon tested positive for Salmonella Newport. It has not been matched to any human cases. The retailer of the melon was notified and they ensured that all product was disposed of and basins cleaned. There has been Salmonella Newport found in melons before, so it is possible this finding could provide additional clues in future outbreaks.

The Cyber Command “sting” team purchased products containing the RUP methomyl from online retailers based outside of Michigan. Out of eight orders, seven were shipped to Michigan in violation of existing requirements MDARD’s Pesticide Program issued warning letters to inform the firms of restricted use pesticide sales requirements, while warning them that continuing to distribute pesticides containing methomyl to uncertified applicators in the State of Michigan may result in further enforcement action.

Disinfectant products collected were tested for formulation at a partner laboratory with a longer turnaround time. Two of 10 disinfectant wipe samples were found to be significantly lower than the formulation percentage on the product labels. MDARD’s Pesticide Program is following up with the product registrants and the U.S. Environmental Protection Agency (EPA).

August 24, 2022 – Taylor: Radiological Emergency Preparedness and Ingestion Pathway Sampling

Participants

- 49 total
- 25 IMT, AA, or exercise staff
- 4 external (Michigan Department of Environment, Great Lakes, and Energy [EGLE], Michigan State Police Emergency Management and Homeland Security Division [MSP-EMHSD])

Overview

This session focused on radiological emergency preparedness (REP) training. This training is critical to fulfill MDARD’s ingestion pathway sampling responsibilities in the event of a release at one of Michigan’s three nuclear power plants. To prepare for sampling water, milk, soil, vegetation, and other items, MSP-EMHSD and EGLE delivered training on basic REP principles and radiological sampling to participants. Participants also completed hands on sampling activities, including milk sampling using MDARD’s new Mobile Milkhouse Trailer, a one-of-a-kind training resource that debuted in 2021.

This scenario was first exercised at the 2019 STE Kalamazoo session. Lessons learned from that session were shared with the IMT. The IMT planned a day to include just-in-time training covering REP 101 and hands-on sampling of water, milk, soil, and vegetation samples. Several lessons learned were incorporated this year, including inclusion of MSP-EMSHD and EGLE in the planning cycle, coaching and demonstration of sampling methods, and more realistic practice of donning and doffing concepts.

Successes

- This session increased the number of staff who have received awareness level REP training. Continued REP training is planned to prepare for a full-scale REP exercise in 2025.
- Participants agreed this was an interesting and engaging topic and would like to be involved in future REP training.
- Each sampling station had a station manager who assisted teams with collecting samples, an improvement from the 2019 session. Participants noted they appreciated the ability to practice taking a variety of different samples and said they were more confident after this exercise.
- It was a milestone and achievement to use the Mobile Milkhouse trailer in a training exercise.

Areas for Improvement

- There can always be more time for JIT training and demonstrations. Demonstrations were a bit rushed and not everyone could see, especially at the mobile milkhouse station. In a real event, a significant amount of time will need to be devoted to just-in-time training.
- Better instructions for labeling and paperwork for radiological samples are needed for the exercise to be more realistic, as well as additional use of PPE such as Tyvek and booties.
- Remember safety – there were some trip hazards associated with the extension cord running to the Mobile Milkhouse, as well as the chains that held the trailer door/ramp.

Notable Results

External participants from MSP-EMSHD and EGLE took part in the IMT planning cycle. Participants identified opportunities for future joint sampling team exercises that would make REP exercises more realistic.

While this exercise was an improvement from the 2019 session, participants are ready to take samples in a more realistic environment. For instance, a joint exercise with EGLE could include a Sample Team activation and deploying teams “into the field” at a park with surface water, foliage, and soil to take samples in a real, controlled environment. Other teams could be sent to a real dairy to take samples from a real bulk tank. All participants would benefit from simulating the process of deployment from and returning to a field team center as described in radiological response plans.

September 21, 2022: Mason: Avian Influenza Response

Participants

- 62 total
- 33 IMT, AA, or exercise staff
- 7 external (NWS, MSP-EMHSD, US Department of Agriculture, Washington Department of Agriculture)

Overview

This was the second of two sessions focusing on HPAI response. The scenario used at the Marshall session was repeated here.

The IMT planned a day with onsite activities to practice donning and doffing personal protective equipment (PPE), the concept of using a clean/dirty line, and collection of simulated “dead birds” for necropsy. The Operations Section Chief prepared and delivered JIT training to teams, explaining the significance of the mission, how to complete forms, and a demonstration of how to don and doff PPE.

Successes

- This was a repeated scenario and the IMT used the opportunity to refine plans and adjust execution. For instance, the demonstration of PPE donning and doffing included a person narrating and a person demonstrating, rather than one person doing both.

Areas for Improvement

- More time is needed to meaningfully practice these concepts. The afternoon hands-on activity felt rushed to many participants and some important concepts were brushed over, such as taking paperwork into the “dirty” zone.
- Focus on the hands-on activity took away focus from forms, which would be a key part of assisting AID with an animal disease response. Specifically, anyone assisting on an IMT will be required to fill out an ICS 214 form. Remember clipboards if you’re practicing filling out forms in a field environment.
- If demonstrating inside a vehicle is unavailable or impractical, use a chair to simulate donning PPE inside a vehicle.

Notable Results

This was the last and largest STE session. Participants appreciated a scenario that was timely, relevant, and real. HPAI response was a huge priority this year, and staff expressed appreciation for training related to emergencies that are real and likely to happen again. Several key partners attended this session, making it an excellent opportunity to demonstrate capabilities, exercise shared priorities, and educate others animal health and disease response. HPAI being a zoonotic disease also provided an opportunity to stress One Health concepts.

General Discussion

Successes

Exercise Design and Conduct

- Several participants said this was the best STE they've attended. The planning team saw improvements from the 2019 sessions, as well as each 2022 session to the next. It is evident from the organization, execution, and results that MDARD is focused on continuous improvement and building capacity in emergency response.
- The Planning P and pre-meetings were well-received. They effectively utilized to familiarize the team with the scenario, objectives, and flow of the day. They also provided a venue for raising awareness and practicing the process.
- There were more people involved in exercise planning and execution than in previous years, which helped to spread the work around. The planning team noted that more people shared the work and more coaching and mentoring happened throughout the process.
- The Director, Executive Office, and partners from local, state, and federal agencies were able to interact with MDARD staff across the State of Michigan and witness the Department's capacity to respond to significant issues.

Employee Engagement

- For many staff, this was one of the first in-person meetings since the COVID-19 pandemic began. Many staff said they were just happy to do something that was outside of their daily routine.
- The exercise provided an opportunity for staff to try new ICS roles, observe the planning process, and mentor others as they learned new roles and skills.
- The facilitated discussions for IMT staff were highly rated throughout the exercise series. They were more effective as in-person than virtual sessions.
- STE provided opportunities for staff to spend time on interdisciplinary work that is different from their everyday jobs.
- Diversity, equity, and inclusion were prioritized by the planning team. Leadership and experiential opportunities for women, people of color, employees at all levels of the organization, and other demographic groups are created through formation of multidisciplinary teams. Specifically, more field staff served as Incident Commanders than ever before.
- The one-hour Verbal Judo presentation that was a part of each session was a well-received and highly rated part of the series.

Emergency Response

- It was evident the department has pushed itself to demonstrate increased emergency response capacity. 2022 was the first time plant health surveys were a part of STE. The ALB and BWA sessions prepared PPPM for a real response to spotted lanternfly in August 2022.
- Using each session as a training opportunity on ICS and the Planning P was a success. IMT members who participated in Planning P sessions noted an overall increase in their understanding of ICS, its usefulness in bringing order out of chaos, and their comfort level in staffing future emergency responses.
- Since the 2019 STE, a significant number of staff have taken intermediate to advanced ICS training and applied it during the 2022 STE. Additionally, because of their experience during 2022 STE, many new MDARD staff expressed interest in position specific and IMT training.
- Field teams appreciated seeing demonstrations of how to take the samples they were assigned to take.
- Participants noted an appreciation for the work that field staff do every day.

Areas for Improvement

Exercise Design and Conduct

- Consider alternative strategies for delivering the series, such as a few sessions annually or having an IMT deliver two sessions in a row.
- Utilize a registration platform that 1) automates delivery of calendar holds when participants register, cancel, and switch sessions and 2) automatically provides participation certificates.
- Consider adjusting the agenda to create more time for the exercise portion of the day. For instance, the EM overview could be delivered in a required live or recorded webinar format offered for the next three sessions. Some sampling assignments needed to be less or more complex to fit the time allotted.
- Have clear roles, responsibilities, expectations, and deliverables laid out for the planning team and the IMT. For example:
 - Planning team is responsible for: facility/venue, registration, food/venue, IMT assignments, coaching the Planning P sessions and providing back-up when needed
 - IMT is responsible for: facilitating the Planning P (Planning Section Chief), completing the IAP, field team assignments (with support from planning team), just-in-time training (Operations Section Chief), sample kits (Logistics Section Chief)

- Communicate early and often with MDARD Leadership and Supervisors on expectations for the IMT. Ensure routine work priorities of IMT members are balanced with STE responsibilities so this opportunity is not an “extra” thing on top of their other duties.
- Plan more engagement, injects, and assignments for the Public Information Officer (PIO) and Liaison Officer. Consider actors, interview requests, and requests for work like talking points or a press release relating to the exercise.

Employee Engagement

- There are opportunities to use STE to expand coaching and mentoring throughout the Department. Consider partnering with the QOL Mentoring Program to identify individual who want to serve as a coach or improve emergency response and ICS skillsets. Identify experienced employees to serve as ICS coaches and mentors during actual responses and future exercises.
- Make IMT assignments earlier in the planning timeline to provide more time to plan workload and adjust schedules.

Emergency Response

- Some samples are expensive and it is unreasonable to ask employees to pay out-of-pocket and be reimbursed. Consider a department procurement card or other pre-paid options to be used for “sting” operations such as Cyber Command. Accountability procedures must be considered.
- Sample documentation is always a priority. Tracking numbers, types of samples and rapid communication of laboratory results are critical to rapid response. Future STEs should always focusing on improving documentation procedures, including testing or using technology to assist in documentation.
- Include more emergency response partners, such as other state agencies, local emergency managers and other local agencies, and tribal partners.
- Create a resource to assist with delivering JIT training for emergency response. This should include level of detail, appropriate length of training, template slides, tips for hands-on demonstration of concepts, and procedures for accountability and documentation.
- An ICS 214 Daily Activity Log should be provided at check-in, and all participants should maintain a log for the entire operational period. This is the minimum required documentation for all IMT personnel prescribed by the MDARD EM Plans Manual, so all staff should be familiar with how to complete the form.
- GIS technology has been shown to create efficiencies and effectively utilize data to make decisions during emergency response. However, ArcGIS licenses were a limiting factor for using GIS technology throughout the exercise series. For rapid response, all divisions should look for ways to utilize the technology and acquire licenses for field staff.

Recommendations

STEs are complex events that take a considerable amount of time and staff capacity to execute. The STE Planning Team expressed that the marathon nature of the exercise series was intense and caused burnout. However, staff have expressed interest in these being offered more often than the current timeline of every three years.

Recommendation: Consider alternative frequencies of future STE offerings and create annual IMT exercise opportunities. One option is to continue to hold 10 STE sessions every three years, but with five IMTs repeating the same scenario at two sessions in one week. In addition to considering alternative ways to offer STE, MDARD should endeavor to hold at least one IMT functional or full-scale exercise each calendar year.

The 2022 series showed a clear increase in staff interest in using ICS and the Planning P to create and execute an operational plan. There are opportunities to provide additional structure and clarity on what the STE Planning Team will provide and what deliverables the IMT will provide.

- **Recommendation:** Create a detailed workplan to provide to each STE IMT that outlines exactly what the STE Planning Team will provide (i.e. location, food, registration, IMT assignments, etc.) and what the IMT will provide (i.e. scheduling Planning P meetings, the IAP, sampling supply kits, communication with the laboratory, etc.).

Thirty-six individuals from local, state, and federal government attended an STE session in 2022. Feedback from partners shows they appreciated the opportunity to learn more about what MDARD does. There are also opportunities to engage other partners, such as tribal governments, local emergency managers, and the private sector.

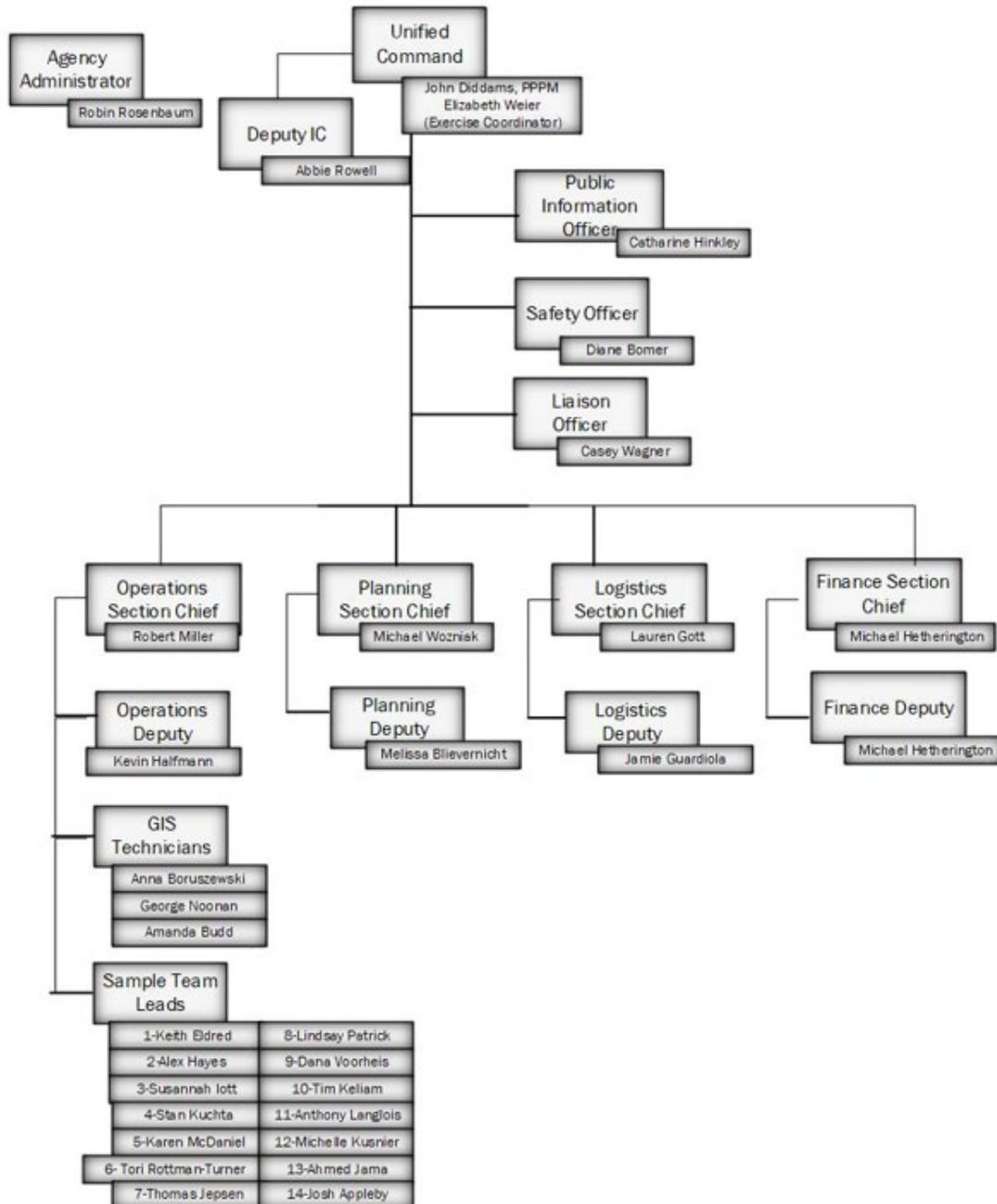
- **Recommendation:** Divisions are encouraged to look for opportunities to train and engage with partners. STE concepts can be used and scaled to the needs of the group. For example, partners in local public health expressed interest in more opportunities to train together with MDARD and other key partners. FDD's Local Health Services and Emergency Response Unit (LHSER) could facilitate half-day exercises in various regions of the state.

Improvement Plan

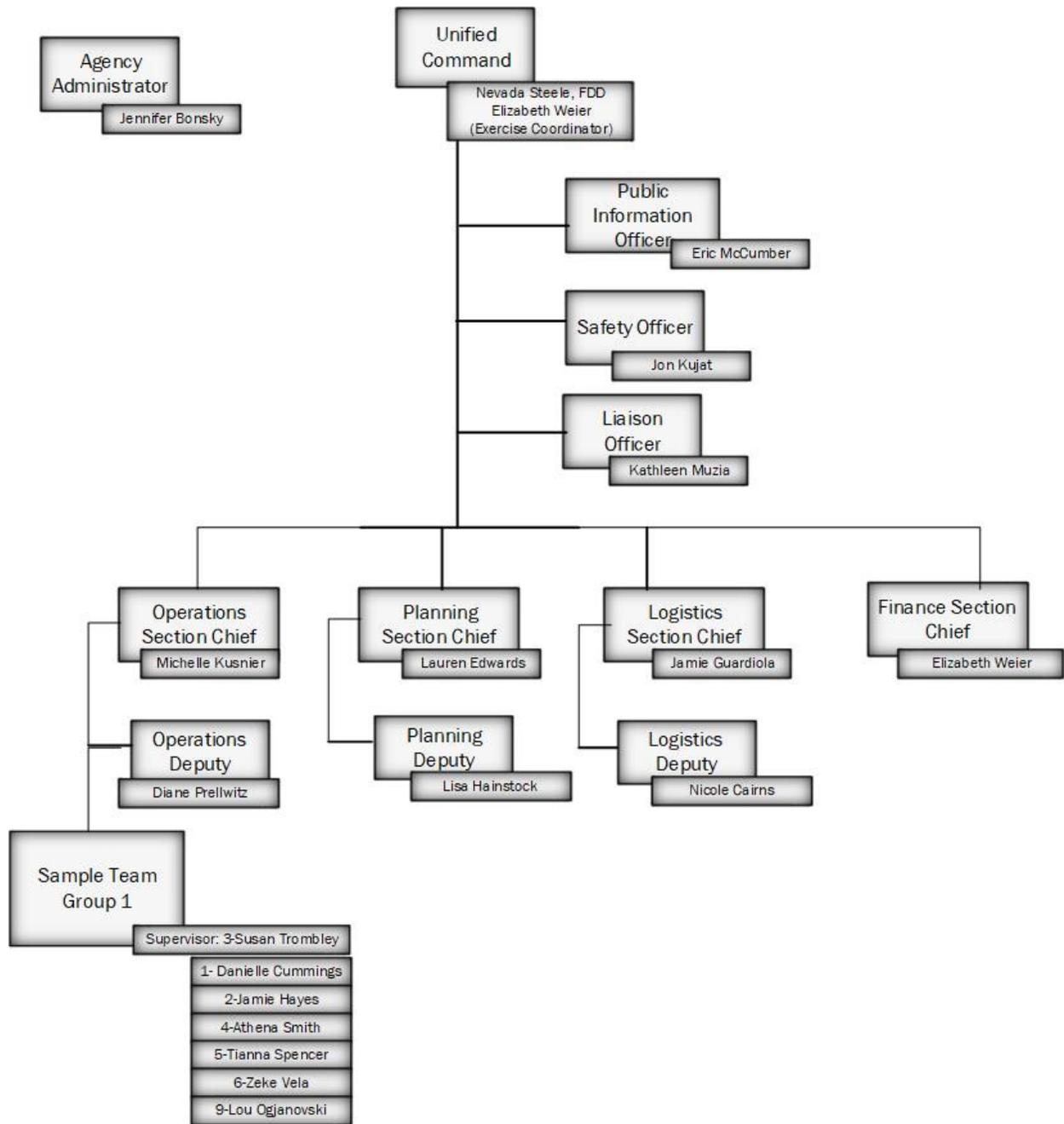
Area of Improvement	Improvement Action	Responsible Party	Targeted Completion Date	Status
1. Provide more opportunities for MDARD IMT training in years between STE	MDARD will offer or participate in at least one IMT functional or full-scale exercise in 2023 and 2024.	MDARD Emergency Management Program	12/31/2024	In progress
	MDARD PPPM will utilize the STE Toolkit and STE surge capacity concepts to accomplish a routine initiative in 2023.	MDARD PPPM	12/31/2023	In progress
2. Provide more opportunities to train and exercise with local partners	FDD's LHSER Unit will offer training opportunities such as regional tabletop exercises for local health departments.	MDARD FDD LHSER Unit	12/31/2024	In progress
3. Update MDARD EM Plans Manual with IMT Guidance and Create IMT Toolkit	A new IMT chapter of the MDARD EM Plans Manual will be created and IMT toolkit compiled.	Deputy Emergency Management Coordinator	2/28/2023	In progress
4. Update STE Toolkit	The STE toolkit will be updated with materials created during this STE series.	Deputy EM Coordinator	1/31/2023	Complete

Appendix A: EXERCISE INCIDENT MANAGEMENT TEAMS

March 31, 2022 – Rockford: Balsam Woolly Adelgid Survey

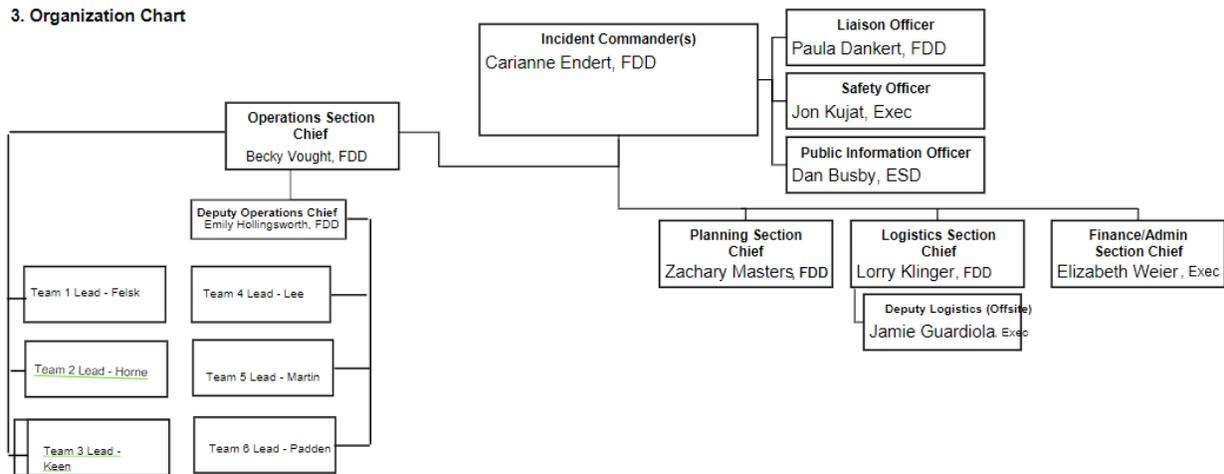


April 13, 2022 – Clawson: Mushroom and Convenience Store Sandwich Sampling

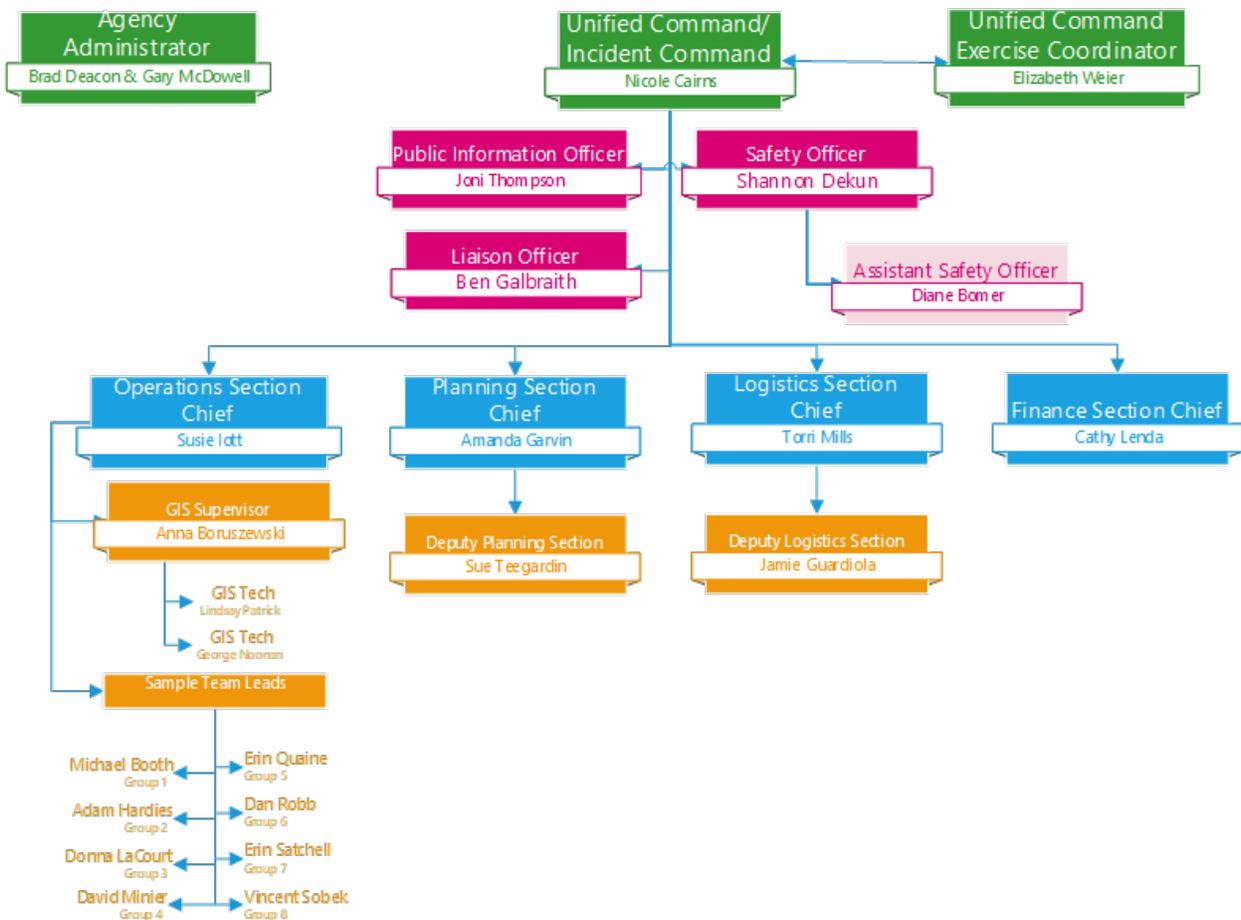


May 11, 2022 – Traverse City: Cheese Sampling

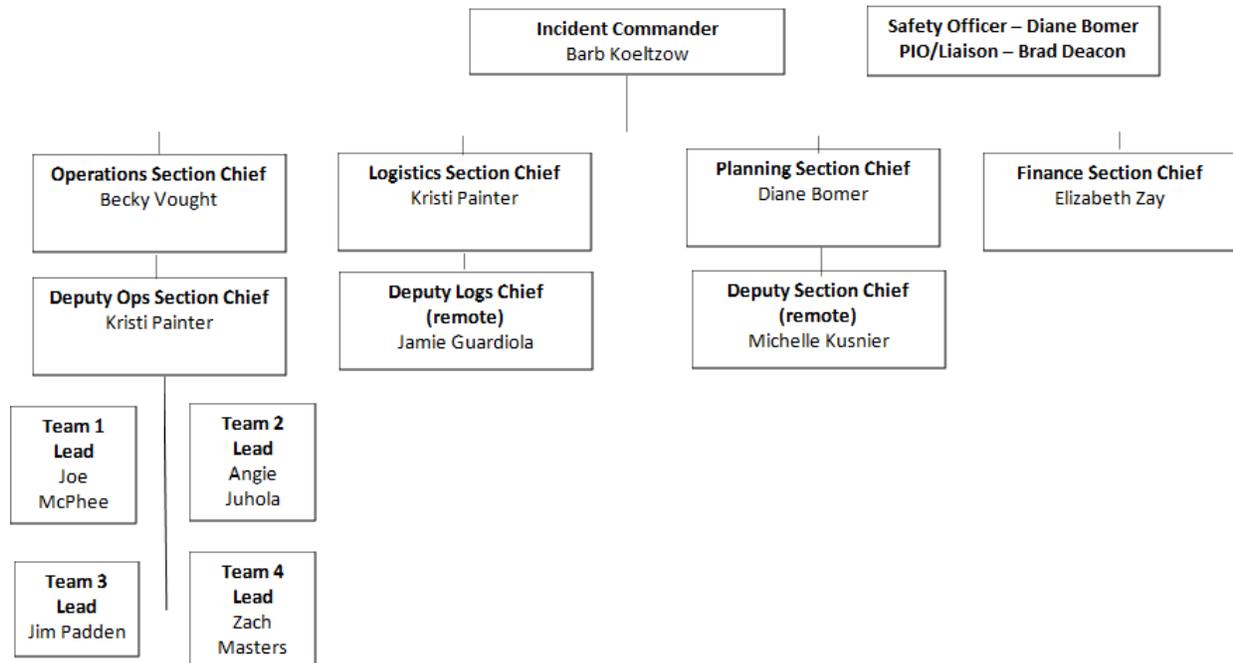
3. Organization Chart



May 25, 2022 – Hillman: Asian Longhorned Beetle Survey

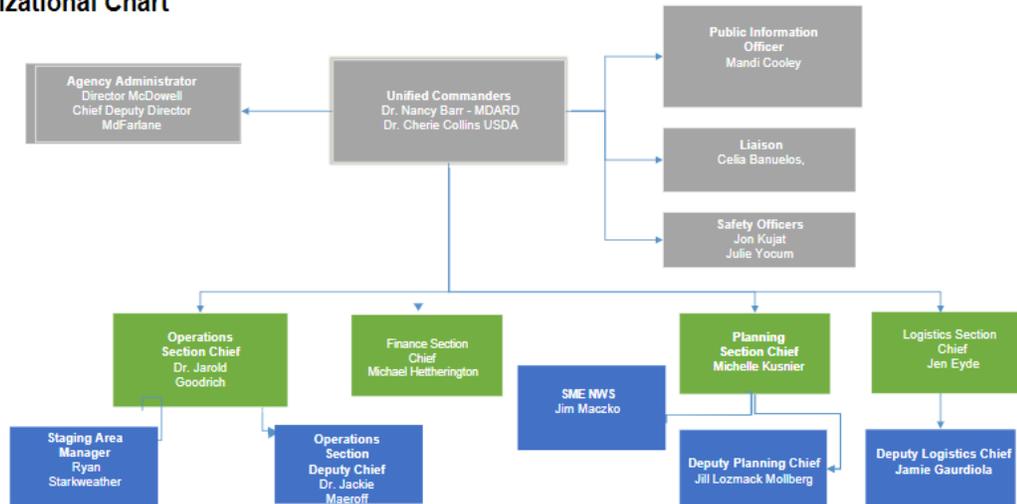


June 8, 2022 – Marquette: Cheese Sampling

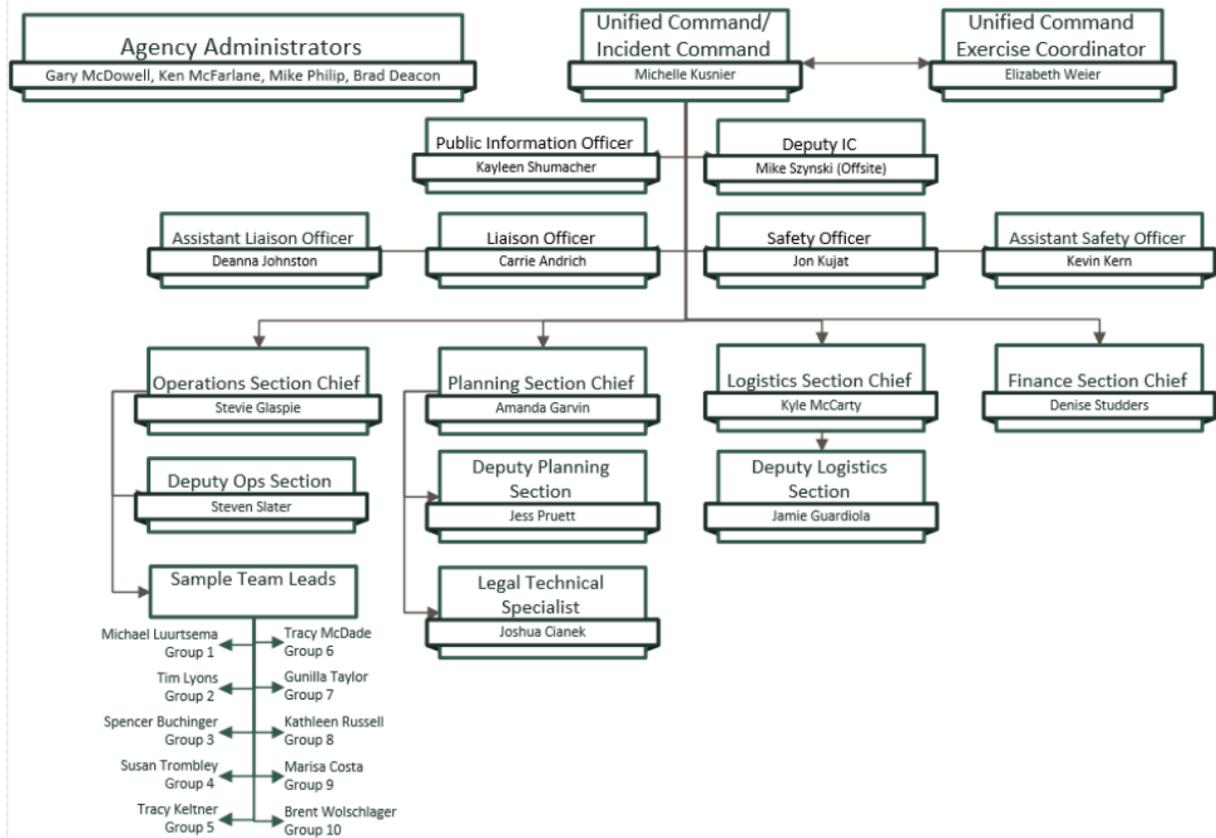


June 22, 2022 – Marshall: Avian Influenza Response

ICS 207 Organizational Chart

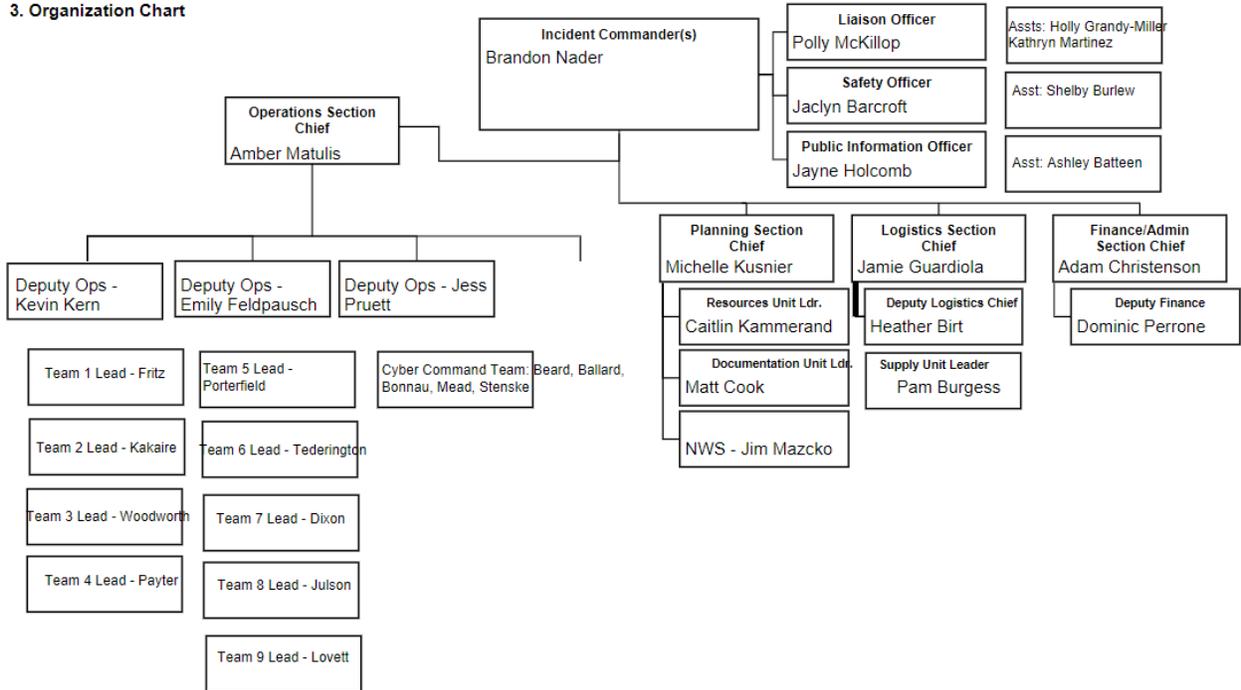


July 13, 2022 – Bay City: Pet Food Sampling

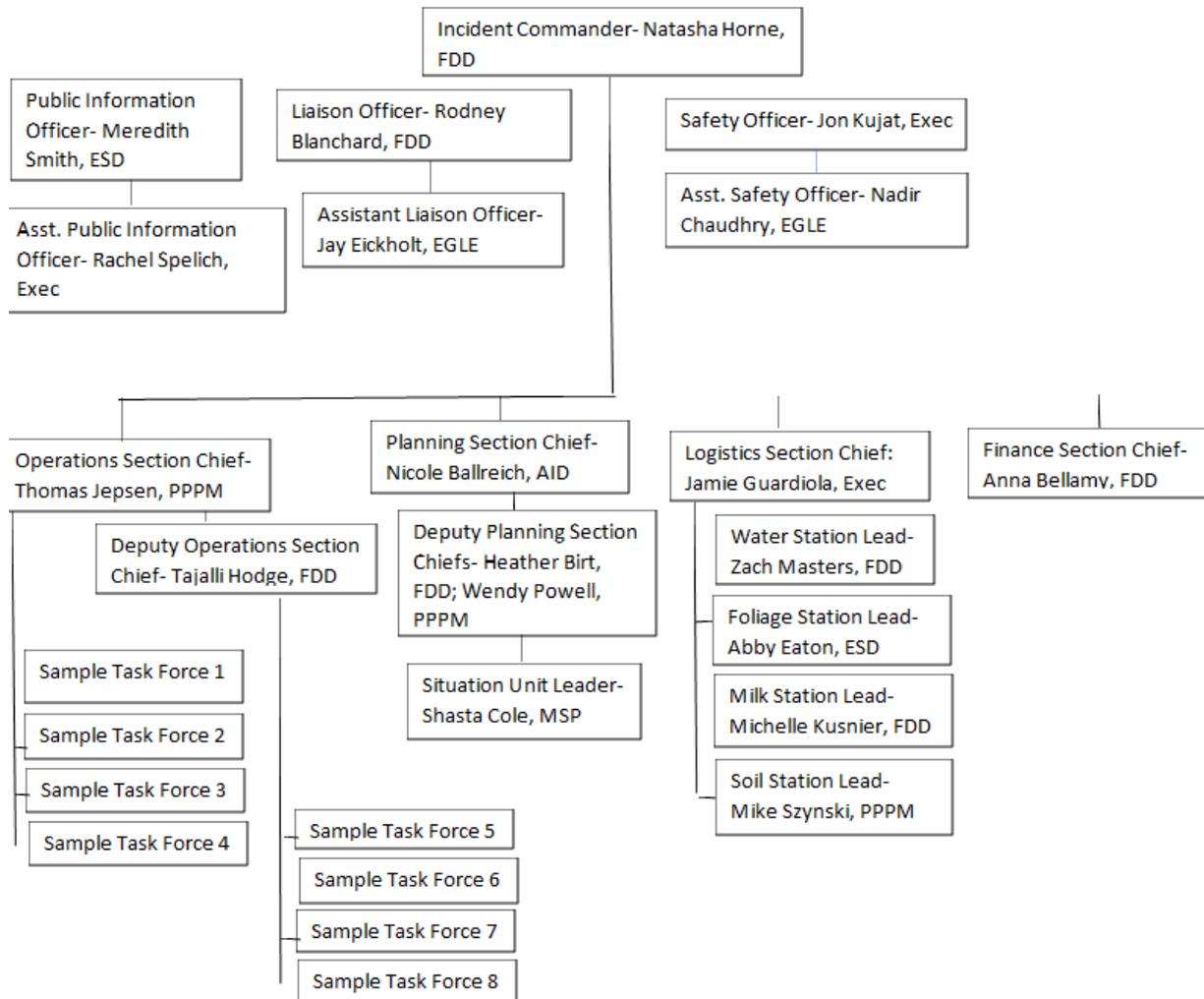


August 3, 2022 – Lansing: Melon and Disinfectant Sampling and Methomyl Cyber Command

3. Organization Chart

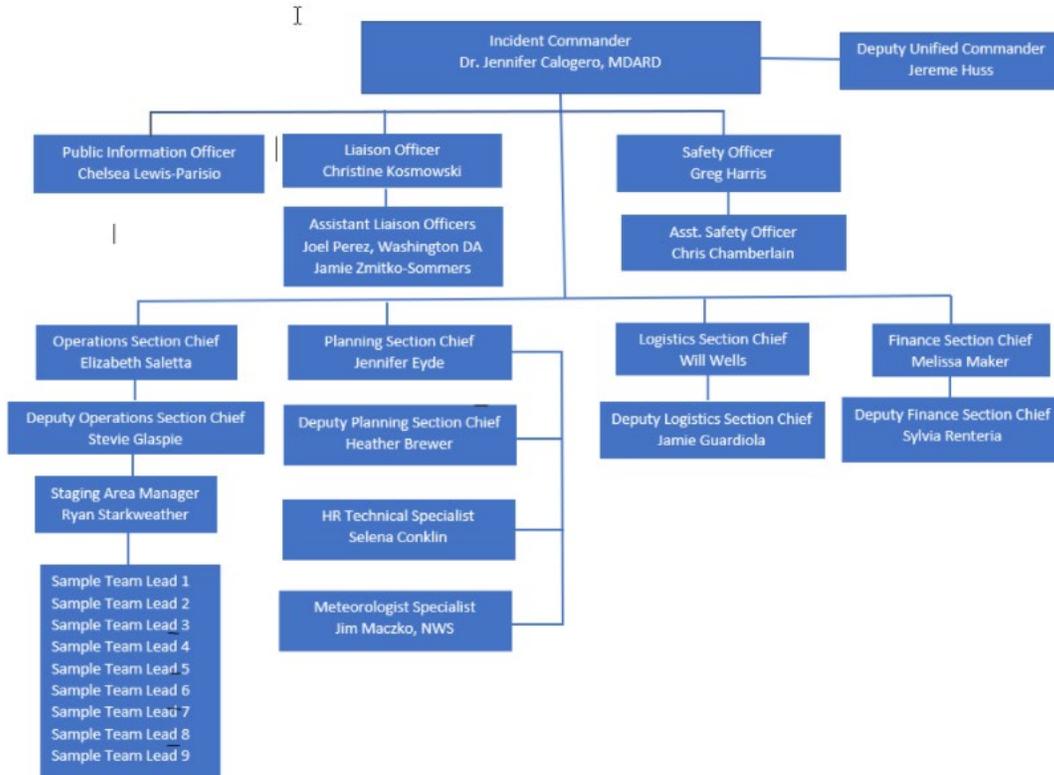


August 24, 2022 – Taylor: Radiological Emergency Preparedness and Ingestion Pathway Sampling



September 21, 2022: Mason: Avian Influenza Response

3. Organization Chart



Appendix B: SAMPLE AGENDA

2022 MDARD Sample Team Exercise – Traverse City, MI - May 11, 2022

Agenda	VFW Hall 3400 Veterans Drive, Traverse City, MI 48654
8:30 am - 9:00 am	Registration and Sign-in
9:00 am – Noon	On-Site Meeting <ul style="list-style-type: none"> • Welcome & Introduction—<i>Brad Deacon, Director, Office of Legal Affairs Emergency Management Coordinator</i> • MDARD Update with Q & A—<i>Gary McDowell, Director of Michigan Department of Agriculture and Rural Development</i> • Verbal Judo Training—<i>Diane Bomer, PPPM</i> • ICS Planning Cycle Review—<i>Office of Legal Affairs & Emergency Management</i> • Just in Time Training for Field Sampling • Operational Briefing—<i>Incident Management Team</i>
Noon – 3:00 pm	Field Team Deployment <ul style="list-style-type: none"> • Lunch (on your own) • Complete assignments as instructed <p>*Incident Management Team Planning Cycle (for Incident Management Team members not deployed to the field)</p>
3:00 pm - 4:00 pm	Return to Command Post <ul style="list-style-type: none"> • Drop off samples and assignments • Debrief • Demobilization
3:15 - 4:00 pm	Dismissal

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Appendix C: PARTICIPATING ORGANIZATIONS

Calhoun County Health Department
District Health Department #10
Kalamazoo County Health & Community Services Department
Kent County Health Department
Livingston County Health Department
Michigan Department of Agriculture and Rural Development
Michigan Department of Environment, Great, Lakes, and Energy
Michigan Department of Health and Human Services
Michigan Department of Natural Resources
Michigan Department of Technology, Management, and Budget
Michigan State Police - Emergency Management and Homeland Security Division
National Weather Service
Oakland County Health Department
Ottawa County Health Department
U.S. Food and Drug Administration
United States Department of Agriculture
United States Department of Agriculture - Plant Pest Quarantine
Washington Department of Agriculture

Appendix D: ACRONYMS

AA – Agency Administrator

AI – Avian Influenza

AID – MDARD Animal Industry Division

BWA – Balsam Woolly Adelgid

CDC – U.S. Centers for Disease Control and Prevention

EGLE – Michigan Department of Environment, Great Lakes, and Energy

EM – Emergency Management

EO – MDARD Executive Office

EPA – U.S. Environmental Protection Agency

FDA – U.S. Food and Drug Administration

FDD – MDARD Food and Dairy Division

GIS – Geographic Information Systems

HPAI – Highly Pathogenic Avian Influenza

IAP – Incident Action Plan

ICS – Incident Command System

IMT – Incident Management Team

IRS – Inspector’s Report on Sample

JIT – Just-in-Time

LHSER – Local Health Services and Emergency Response

MDARD – Michigan Department of Agriculture and Rural Development

MDHHS – Michigan Department of Health and Human Services

MSP-EMHSD – Michigan State Police Emergency Management and Homeland Security Division

NWS – National Weather Service

OSC – Operations Section Chief

PIO – Public Information Officer

PPE – Personal Protective Equipment

PPPM – MDARD Pesticide and Plant Pest Management Division

QOL – Quality of Life Agencies

REP – Radiological Emergency Preparedness

RRT – Rapid Response Team

RUP – Restricted Use Pesticide

STE – Sample Team Exercise

UP – Upper Peninsula

USDA-PPQ – U.S. Department of Agriculture Plant Pest Quarantine