

## Just Mass Disaster Emergency Response in Maui, Hawaii.wav

**Introduction** [00:00:01] RTI International's Justice Practice area presents Just Science. Welcome to Just Science, a podcast for justice professionals and anyone interested in learning more about forensic science, innovative technology, current research and actionable strategies to improve the criminal justice system. In episode one of our case study season just sat down with Anthony Earles, Forensics Identification Unit supervisor at the Maui Police Department, to discuss the Maui wildfires that occurred on August 8th, 2023, including the collaborative nature of the mass disaster emergency response effort, the forensic methodologies and technologies used to identify recovered human remains and the various challenges encountered during response mobilization due to the isolated geographic location of Maui County, Hawaii. When deadly wildfires impacted Maui County, available resources and existing infrastructure were put under strain. Despite these initial obstacles through the collaborative response of over 100 individuals from federal agencies, external partners, state and local forensic science service providers, as well as members of the Lahaina Community. Maui police department was able to expand its response capacity, recover unidentified human remains and identify these remains using a variety of forensic identification techniques, including rapid DNA technology and more. Listen along as Tony describes how Maui Police Department and the many forensic professionals and first responders involved were able to locate and identify unidentified human remains, the importance of collaboration and communication in mass disaster response, and lessons learned that may support mass disaster response preparedness planning efforts within the forensic community. This funded episode by the National Institute of Justice's Forensic Technology Center of Excellence. Some content in this podcast may be considered sensitive and may invoke emotional responses or may not be appropriate for younger audiences. Here's your host, Mikalaa Martin.

**Mikalaa Martin** [00:01:56] Hello and welcome to Just Science. I'm your host, Mikalaa Martin, with the Forensic Technology Center of Excellence, a program of the National Institute of Justice. On today's episode, we will discuss the tragic Lahaina fire that occurred in August of 2023, claiming the lives of 102 individuals and the mass disaster response taken in Maui to locate and identify these human remains. Joining us today to discuss these response efforts is Mr. Anthony Earles. Welcome to Just Science Anthony. Thank you for sitting down with us today.

**Anthony Earles** [00:02:33] Aloha and greetings from Maui. Please feel free to call me Tony. All right?

**Mikalaa Martin** [00:02:38] You got it, Tony. To kick off today's episode, could you share a bit about yourself and your journey to and through the discipline of forensic science?

**Anthony Earles** [00:02:46] I got my master's in Forensic science in 1987. Now I realize that is before DNA was accepted in criminal trials in the United States. So we were the first graduating class of Virginia Commonwealth University's newest program in forensics. And I have been working with the Maui Police Department since 2006. I started as a police evidence specialist. That's what they call them here in Hawaii - crime scene investigators. And in 2016, I was promoted to the supervisor of the forensics identification units, where I oversee the county of Maui forensic facility, and that includes the cold case unit, crime scene unit, digital forensics, fingerprints and the morgue.

**Mikalaa Martin** [00:03:34] Sounds like you have a lot on your plate. Perfect. Well, to dive into our case study for listeners who may be unfamiliar, could you give us an overview of

Maui and Lahaina Hawaii, including their geographic location and any key information that is relevant to better understanding the impact, scale and deployment efforts for the Lahaina Fire?

**Anthony Earles** [00:03:53] For those who may not be aware, the state of Hawaii is eight islands in our chain that are inhabited. We are approximately 2500 miles from San Diego. So we're kind of in the middle of the Pacific Ocean. Maui County itself encompasses four of the eight islands. So there is Maui, the largest, Molokai, Lanai, and there is an uninhabited island in our county - Kahoolawe. Maui County has about 165,000 residents. But realize that our daily average of tourists is around 75,000 per day on Maui. On August 8th of 2023, our police department consisted of 196 sworn officers. That includes our outer islands, the smaller islands. A minimum of 24 beat officers are working at any given time on the island of Maui. And we have seven forensic professionals in our forensic facility on a daily basis. A little bit about Lahaina. Lahaina is located on the west side of the island. Lahaina has over 13,000 residents before the fire, and thousands of visitors daily can easily double that population on the west side. The size of Lahaina is approximately eight square miles and of note is the fact that there is a single access road, the whole nor pilani highway that is accessed from the south and the north.

**Mikalaa Martin** [00:05:36] And prior to the fire, what infrastructure, communication networks and incident management systems were in place for mass disaster emergency response scenarios?

**Anthony Earles** [00:05:47] Well, I'll take this piece by piece. So infrastructure. Again, Lahaina is on the west side of Maui, and it's kind of isolated from the major population centers. For example, our main airport in Kahului is in central Maui. Wailuku town is the seat of government, both state and county. And Kihei Wailea is a large population of tourist accommodations on the South Side. Realize that due to that isolation on the West Side, most Lahaina residents only venture out to come into town to shop at Costco. It is about a 22 mile drive, taking anywhere from an hour to an hour and a half because it is a narrow, winding coast side road and there can be a lot of heavy traffic with all the tourism. And I will jump in to communications. Before the fire police and emergency systems constantly are being upgraded every year and they have been very well maintained and very effective coverage for our island community. Again, with the four islands that comprise Maui County. Since the islands have the challenges of coverage is that the mainland might not understand realize that when you have islands, there are going to be the inability to place towers along the shoreline. So towers providing coverage for the west side, for example, are actually located on the two neighboring islands of Lanai and Molokai. Same thing with cell phones. The major carriers provide truly adequate services except in very remote locations. So as far as our incident management systems, like most agencies, the Maui Police Department participates in countywide mass casualty training exercises, constantly including tabletop exercises, exploring various possible scenarios involving all the community partners, including hospitals, mortuaries, airports, private construction companies, which we depend on a lot of times for loaning the county equipment use for large fires, brush fires, that kind of thing on a normal basis, and just realize that our infrastructure at the forensic facility, our daily operation is around seven live people working in this building. During the Lahaina response, we expanded to 127 people. Yes. And you can imagine the challenges from not only the day to day, just toilets, for example, not able to be able to handle the increased loads. We had to bring in portable toilets, air conditioning, refrigeration failures it's not used to being able to operate from six in the morning until midnight every day at high capacity. Our facility wasn't designed to handle those extended hours and operational requirements, so supplies like your paper

towels, toilet paper, everything had to increase coming into the building to support those who came to assist us during the disaster.

**Mikalaa Martin** [00:09:00] Thank you for sharing a little bit about the tabletop exercises that were conducted in advance of the Lahaina Fire. I'd like to go back to discussing the infrastructure communication networks and the incident management systems and how those elements were impacted by the fires.

**Anthony Earles** [00:09:18] I will tell you, during the Lahaina fire, we were tasked with many and numerous, we were tasked with things that constantly popped up that were almost impossible to plan for and trying to make sure that effective services were constantly provided. Also realized that there were actually four fires on that day, not just the Lahaina fire. So we had four areas of Maui that were being affected immediately, and our fire departments, for example, our police departments, everyone was responding to multiple areas. So it was not limited to just the west side. So we had other people in our community that we also had to look after. And unfortunately, the Lahaina fire, it seems to have done the most damage. But we did have actually upcountry there were more than 20 residences that were affected. And we thought at one point with the situation that was going on, a hurricane had just come by and was sitting to the south of the island and was creating over 80 mile an hour winds. So we were worried that the large tourist area as well in Kihei Waleha was going to be affected. There was a large by far the largest fire was on the border of that area. And so all of this was having to be considered at the same time. This affected our initial shipments, for example, of rapid DNA instruments that were being brought to Maui to assist us during the investigation. Our first instrument that was shipped had to be shipped to the farthest north island of Kauai and realized that it had to be picked up by U.S. Coast Guard C-130 airplane and delivered directly to Maui from Kauai. It arrived on day three Post-fire. So even though the declaration of a state of emergency does have positive impact, we had to go over a couple of speed bumps and challenges initially with shipments. Also realize that, as I said, the Lahaina town has a single egress route to the north and the South. Realize that with the heavy winds over 80 miles an hour, trees, power lines, stalled vehicles were blocking the roads. Realize also that when you talk about the vehicles, internal combustion engines require oxygen to provide power to the engine. And because of the high temperature fires, yes, the metal on cars were actually melting. The cars were not able to run. So they were stalling in the middle of the road, creating more roadblocks and the fast burning structures themselves. Many of the buildings were older, constructed of wood instead of the modern metal framing. And another challenge was the fact that cellular service was interrupted. The towers were down for all the carriers on the west side. So the morgue facility is approximately 22 miles away. And even though we are here to receive the recoveries, we still have to communicate with those that are conducting the recovery operations on the west side. Our Maui Police Department radios were fully functional throughout, which is, again, because of our preparations and keeping our communications systems upgraded constantly. They were no problem. However, for those of us who only used police radios before, it only allows a single speaker at a time. So again, that can be challenging when there's hundreds of people that are trying to communicate different things during the emergency. Another challenge was street signs being destroyed by the fire. It made navigation sometimes challenging, not only for people from Maui who were familiar with the street signs before, but because our off island workers who came from our federal agencies may not understand the speaking of the Hawaiian names of the streets and the neighborhoods, a lot of times the Hawaiian names seem similar and their pronunciations are very close and confusing sometimes to off island workers. So again, these were inherent to the fact that the majority of the streets did have Hawaiian names.

**Mikalaa Martin** [00:13:51] After receiving this call about the fires, would you be able to walk us through some of the first steps that were taken by your team upon request to respond and provide a timeline of the key events that took place during the front end of the deployment efforts.

**Anthony Earles** [00:14:07] I received a call from another detective that the fires are raging in Lahaina and we're going to be expecting to have numerous casualties. The fire did burn very fast. It did extinguish itself by the morning, pretty much thoroughly. So realized first thing on the ninth, we made 40 recoveries by Criminal Investigation Division on that very first day. Again, these were recoveries that were obvious. They were in the roadways. They were along the roadways on the sidewalks. So they had to be recovered initially to make sure that we could provide transportation for searchers who were going to be performing. Search and recovery. Realize also on day one post fire that on our side, as far as receiving the recoveries, we had to start expanding the temporary morgue. Luckily, we were able to utilize the adjacent vacant lots to our forensic facility to accommodate eventually five refrigerated shipping containers. And we started on day one post fire with daily morning briefings every morning at 630, and we were tasked with problem solving. Again, remember, we still have limited cellular and tech services, so everything is being conducted by police radio. This was the morning briefings was an opportunity for a very open floor discussion. There was no such thing as chain of command issues. This was an opportunity for people to bring problems and bring solutions and ideas. It was a collaboration. There was an opportunity for discussion and our goal was to solve whatever problem came and make sure that we could move forward with the very best information that we had. It was also an opportunity as new team members were coming aboard from federal responses and other agencies statewide to integrate those workers and introduce them, make sure that everyone knew what our roles were, including the recovery site. So again, we were trying to coordinate from our side of the forensic response, which is just the receiving of the recoveries and communicate effectively to the recovery site. By day three, our rapid DNA instrument was on site. Our first one. Another surprise happened was that the media was starting to look for stories and they were starting to provide coverages of our temporary morgue area, which was the refrigerated shipping containers and by day six post fire. We realized that we needed to have a team and a task force that could integrate all of the facets that were going to be involved. So we started the MINT. That stands for the Morgue Identification and Notification Task Force. These were leaders from each agency and segment of the operation to help problem solve. Again, no chain of command. If we had a problem, let's solve it. We would meet in the room all together, the leaders from all the agencies. And again, that was on day six. We were already communicating with our recovery command center and effectively by that point were able to get majority of the cellular communications back up. By day eight, our morgue capacity had fully expanded from our pre fire 100 shelves to 300 shelves. And our DMORT, which is the Disaster Mortuary Operations Response team, is the federal response was fully functional on day eight. And to those of you who may be on the mainland where people can just drive in from your local jurisdictions to help realize that everyone had to be flown in. And again, the challenges of being 2500 miles from the mainland. Recoveries continued for months. The last recovery was six months after the fire. So on February 9th of 2024, we had our last recovery, and that was number 102 as identified.

**Mikalaa Martin** [00:18:34] And Tony, I think there is a lot there, but kind of three of the major themes that stuck out to me that you mentioned and all of that was collaboration, community and problem solving. I think those are some really big takeaways. If you kind of

wanted to speak more about their importance or kind of their central role that they played in response efforts.

**Anthony Earles** [00:18:55] Yes. And I will tell you, the federal system, FEMA, as well as DMORT, provides a valuable resource to a local jurisdiction that is overwhelmed to capacity. And when they show up with their team as an assessment team first arrives on island and then they determine what's needed. Within two days, the rest of the actual team arrived on the island and that very next day they're ready to go. So by day eight, Post-fire our DMORT was fully functional and was providing the autopsy assistance that was needed for the extensive operations that were needed for identifying the decedents. And realized that as the recoveries progressed through the timeline, the initial recoveries were more whole, they were less destroyed by the thermal defects. But I will tell you, as recoveries progressed, they became more cremated and scattered just because they were harder to find as well as they were more located inside of structures that were harder to search. And again, I was not part of the search side. I was purely on the side of the forensic morgue operations and identification. But the collaboration was extreme. We had community members, organizations, companies, you name it. The great thing about being a small community is that you pretty much know or someone knows somebody in those organizations. It just takes a phone call and we can get something working and we get things moving. We tell them what we need and they make it happen. And our community did step up tremendously to support our efforts as well as the Lahaina community on that side as well. Communications, again, everyone has different operational plans and everyone's goal is the same. The goal is to get to the end of the operation with as many decedents positively identified as possible, and those remains returned to the families in as quick as possible. But again, being very thorough. So everyone may have a little different way to get there. But that's what's great about the federal system. The federal system works with the local jurisdiction. And once they leave, they leave you with all of their work product. So all of the database that was created was left with us. And so we had to continue to use that. And we still use that as we're finalizing the identifications on some of the most severely damaged cremains. So the process is a long haul process. It is not a sprint. It is a marathon.

**Mikalaa Martin** [00:21:57] And you've brought it up a little bit prior to now, but I'd love to hear a little bit more about the search and identification methods and techniques that were employed to find and identify these remains.

**Anthony Earles** [00:22:09] I will tell you again, I was not part of this search side. That was handled through a command center on the search and recovery. But we did have a command center in our police chief's office that was meeting constantly from day one. And we would report there constantly, sometimes multiple times throughout the day. And our goal was to make sure we communicated what our needs were and what we were encountering, to make sure that everyone was communicating effectively across search and recovery as well as the morgue operations. I will say that by day four, Post-fire, we had our first scientific identifications of decedents using fingerprints and rapid DNA technology. The other scientifically accepted identification method, such as dental, was a little later. That was around three weeks in the post-fire timeline that our dental IDs began. But that was because it was challenging to find dental records, and I will talk about that a little later. But as our preliminary after action report identified, 63 total were identified by rapid DNA, 17 were identified with fingerprints. And again, those were the earlier recoveries. Then 14 were confirmed by dental. Two were confirmed by medical devices. So I will also talk about during the identification methods, the use of dogs, as far as my understanding, in recovery of unidentified human remains. Again, we were not directly

involved. Our involvement was to communicate that we had a primary recovery and we were conducting autopsy and we were missing parts or major portions. And we would communicate that with the recovery side and go send another team with an anthropologist to conduct a secondary and sometimes a tertiary recovery. But I will tell you that the 40 dog teams that were from the mainland were, from what I understand, very helpful and effective, especially with the earlier recoveries. Again, these were more intact without extreme fire damage. But as the recoveries became more cremated and scattered, the guidance from the experienced anthropologist was truly valuable and could not have been done without those anthropologists. So the anthropologists that came were from, of course, the DMORT. They provided anthropologists both on the morgue side, as well as the search and recovery side. Same also came from DPAA, which is the Defense P.O.W. MIA accounting agency that was based in Honolulu. We have worked with them as a forensic statewide partner before, but these are some of the best anthropologists in the world, and they specialize in identifying remains of our military that have been left in prior incidents throughout the world. So they are highly trained and very well tasked with being able to identify extremely damaged remains. Now in the morgue during the autopsy process, as we were seeing the primary recoveries, we would communicate with the search and recovery command and tasked them with sending another team back for a secondary search. We also created an immediate Excel spreadsheet that we had to track, and we shared this on a file for forensic personnel to be able to keep it up to date as possible with the latest information as to where the recoveries were- the primary. When a secondary recovery was conducted. What were the results? And if that was finalized and we were completed with that site. The anthropologists would conduct assessments of the remains here at the morgue, and they would we're looking for completeness, wanted to make sure that we were documenting. They were documenting it through photography and as well as through inventory sheets with skeletal designs that they would mark with red markers to show what was recovered and what were we missing. Again, we were trying to also verify the singularity of remains. So remember that during this event sometimes people were found together. During this extreme event, this this experience, you can only imagine that you were trying to take shelter anywhere you could and some time that was together. So it was our job to make sure that we separated those and were able to identify if there were multiple remains. We had to make sure that we verified the identity of each and every one of the recoveries. Also, as far as postmortem fingerprints, well, I will say, and I would love to send our appreciation to the FBI lab in Quantico. They sent a fingerprint specialist who was wonderful and training our team on techniques for optimizing the recovery of fingerprints from the decedents. Those initial recoveries without extensive thermal damages. The fingerprints were obtainable, but realize that a lot of our decedents were actually older victims, and most of them do not have arrest fingerprints or known fingerprints on file. A lot of them didn't even have driver's licenses, which, again, we can't even search driver's licenses and compare it through AFIS anyway. But I will say finding known prints was sometimes challenging for the older members of our community. And then as far as our dental identifications realized that our records were lost in the fires. Most of the Lahaina residents tend to stay on that west side. Most of them conduct all of their business on the West Side, including their dental visits. And unfortunately, several of those dental offices were also burned, delaying our ability to be able to obtain those known dental records. As far as medical devices and medical X-rays from previous medical treatments. Some of the individuals were identified with medical records, including X-rays from prior treatments. We even had two recoveries that were identified using implants. One was a pacemaker and the other was a hip joint. Both of those have unique serial numbers that were used to make that identification. And then, of course, the largest by far was the use of rapid DNA. So on day four, Post-fire, our first DNA identification was confirmed and realize during the height of operations at the morgue we had five DNA

instruments onsite, operating with a team from across the country assisting us in the morgue, recovering samples, taking those samples to the teams that were conducting the rapid DNA analysis. And then the results and the identifications were being reported to our forensics team.

**Mikalaa Martin** [00:29:47] So, Tony, you mentioned the use of rapid DNA technology to support identification efforts. For those listeners who may be unfamiliar. Can you explain how rapid DNA is used in mass disaster scenarios?

**Anthony Earles** [00:30:00] So rapid DNA technology, it was tremendously helpful that 90 minutes to 2 hours that it takes for that analysis to go through and give you a positive identification was truly amazing. And our goal, again, is to be able to secure a positive identification of the decedent and to allow the families to proceed with their loved one's disposition. And they really need to have that positive identification to begin that closure process. So the rapid DNA was by far one of the most valuable tools that we had available to our use throughout this operation. And it continues to date again from our preliminary action report 63 were positively identified using rapid DNA. So, again, we would not have been able to do it without that technology.

**Mikalaa Martin** [00:31:05] Can you talk a little bit about the processes used and the general experience in obtaining family reference samples to compare to DNA profiles developed from the located remains?

**Anthony Earles** [00:31:17] Realize that our Maui community is comprised of people from numerous countries, making it sometimes challenging to secure family reference samples. We needed family reference samples from worldwide, so the FBI provided assistance as well as the Mexican consulate. We were able to have samples recovered by law enforcement agencies worldwide and shipped directly from the FBI to Maui Police Department for analysis. We realized early on that some folks are reluctant to provide their DNA samples to law enforcement. So we spent quite a great effort with social media promoting a message that those family reference samples would only be used for identification of their family members and absolutely nothing else. That was a great undertaking initially, but once the message was passed through out with social media, we had the help of community leaders and religious leaders speaking in their native languages in public service announcement type messages to communicate that we would only use those DNA samples from the family members to identify the decedents. So nearly one month after the fire, we conducted a family briefing on the West Side. This was by invitation only. It was for immediate family members only. There was to be no lawyers, no media members, no non-family members. The event was a quite a production, you can imagine. Again, this is about one month after the fire started with a Hawaiian blessing. There were numerous religious leaders there for consultation. The Maui Police Department answered questions directly and realized that there were sometimes very difficult situations. For example, one family lost numerous members. So our forensic pathologist, our resident forensic pathologist was there as well to meet with them and answer their questions directly. We also provided numerous available resources, such as from the Red Cross, FEMA, County and state agencies that were providing assistance. We had all of these resources there, as well as, believe it or not, we were still recovering family reference samples. So it was a truly important part of the process to make sure that we were dispelling rumors, false information. You could not believe how much media was coming out with false information and partial truths that were being twisted. So it was our opportunity to talk directly to the families and make sure that they realize we are still here for them.

**Mikalaa Martin** [00:34:24] And you've mentioned it quite a bit, so many collaborators and contributors to these efforts. But in general, can you explain how that support assisted in expanding the forensic capacity for the emergency response?

**Anthony Earles** [00:34:38] Maui Police Department's expanded response included so many local, state and national agencies. Maui Search and Rescue was one of the initial ones. Hawaii National Guard based here on Maui, the Army National Guard based here on Maui. The Honolulu Fire Department sent over backup for our Maui Fire Department. The National Park Service here on Maui provided officers, the Customs and Border Patrol, FEMA, as well as urban search and rescue, came from the mainland. Again, the Department of Defense P.O.W. M.I.A. Accounting Agency, Health and Human Services. In Honolulu our FBI evidence response team, who are forensic partners that we worked with, greatly provided tremendous rapport and support throughout from day four. They were probably the quickest ones to be able to respond. But we've had a long term relationship with the evidence response team and our federal partners and statewide. Again, we're stuck in the middle of the Pacific Ocean. So we have worked together as an island community on collaboration with our forensic partners. DMORT itself coming from the mainland with all of the tools that they needed. The rapid DNA provider that helped us with getting all of the team members to come to help us to analyze the samples from the morgue, as well as the family reference samples and to train us on how to utilize the equipment so that once they departed to go to another disaster, we were able to continue our work. And of course, the Mexican consulate were very helpful. The anthropologists were vital. Again, DMORT, DPAA, the University of Hawaii west Oahu sent representatives, as well as California State University in Chico. All of these organizations sent anthropologists to help us, not only in the morgue operation, but in the search and recovery. The expanded capacity could not have been done without help from our local construction firms, helping to build the privacy walls as well as building the driveway parking lot and just moving all of the shipping containers around. So the shipping companies helped us any and everyone came in and helped us as a community.

**Mikalaa Martin** [00:37:08] And I think that that is incredible for the local efforts and the national efforts to support Maui. With the influx and the expansion of support professionals did you encounter any obstacles in managing the support of agencies deployed to provide additional capacity?

**Anthony Earles** [00:37:27] Wow. It seemed like every day there was a challenge, if not numerous challenges. Our morning briefings became our opportunity to solve any and all problems as they arose. We tried not to let anything sit and wait. We wanted to handle it upfront and get it done. Again, this was an open floor and everyone we went around the room, everyone who was there at the morning briefing was asked for their input, not to put them on the spot, but it was their opportunity to make sure that their input was heard by the team. One of the biggest obstacles was initially realized that over 3000 were reported missing in those first days following the fire. So over 150 federal, state and county law enforcement officers followed up on each and every one of those reports. Realize that they had to follow up on every one of those reports, consolidating duplicated reports, because sometimes numerous family members would report the one individual as missing. So they whittle it down from over 3000 into the credible list of those that were truly unaccounted for. Our final identified victims was 102. We today have only two remaining on the list of unaccounted for.



**Mikalaa Martin** [00:38:58] And thinking about the the human side and the individuals involved. Mass disaster events can be physically and mentally demanding and distressing for both the community members that are impacted and the forensic professionals that are supporting the deployment efforts. Can you speak a bit about the support and systems in place to promote forensic professionals physical and mental well-being while at the deployment site?

**Anthony Earles** [00:39:22] Well, I will tell you, the forensic professionals who assisted us throughout this response were dedicated to their work. They were showing up ready to work, and they worked until the very last minute each day. We actually had meals delivered more than three times a day to our morgue facility so that the forensic professionals could take a break, go up to our lunch room, have a lunch, and then go right back to work. We also had mental health support throughout the event from probably the third day after the fire. We had experts visiting our facility multiple times. We actually went on the first couple of times they came to the facility. We would bring them into the autopsy suite so we could introduce them. We would go in and now realize we had four autopsies being conducted simultaneously. So there were about sixteen people working. Immediately we would walk in. I would ask people to put down what they were doing for just a moment. I would like to introduce so-and-so, our mental health expert. Their contact information was posted throughout the buildings as well as the opportunity for them to meet them directly. They would come through, walk through the building, and they would come and talk to them in the lunchroom. They would go walking through the different areas of the building. One day we even had a comfort dog come through the building to help. Now, again, we did not take the dog inside the morgue. But I will say throughout the office areas, one of the big things that you realize when you're working from six in the morning to 11 at night, the federal response is those people came to work. So they work long day. But the host agency has to consider you have to take breaks. You can not work that way day in and day out. So we had to consider our staffing because you have to have your staff on site throughout the work of the federal agency. So smaller agencies, you have to consider that you need to schedule your people to split the days and the shifts to make sure that you have ample coverage and that the work gets done, but that your people can take breaks because you've got to take care of yourself to make sure you can take care of others. I personally constantly circulated throughout the building and all throughout the grounds of our expanded morgue to check on team members, asking them how are they doing? Asking them What do you need to do your job and to make it easier. Another tool that we would use is during the morning briefings, I try to maintain optimism, realizing that everyone was facing such grim duties. We had celebrations every day. We would celebrate how many positive IDs we were able to accomplish the day before. We would celebrate birthdays, anything we could think of to try to make something positive and to make people have some positive outlook as to where the end was going to be. And there is an end to the race.

**Mikalaa Martin** [00:42:36] Thank you for sharing Tony. I think well-being is so important and I appreciate all the examples that you've provided that other agencies can pick up and utilize, maybe even just for daily work as well, to keep morale high. So moving into post deployment efforts, are there still remains that are unidentified?

**Anthony Earles** [00:42:55] Yes, there are still remains that are being tested with advanced DNA analysis, and these are very severely damaged unidentified human remains. They are being conducted by not only rapid DNA provider as well as AFDIL, which is the Armed Forces DNA Identification Laboratory out of Delaware. I will mention, though, if you as a smaller agency after a federal response, you would like to continue to

utilize these federal resources. You need to secure those federal resources by a MOU or a memorandum of understanding. And sometimes that can take months to get in place. So make sure you start that process early well in advance of when you're going to need it. So we actually started that in mid-September to progress through the point of where we are because they are projecting the FEMA and EPA are projecting that the recovery sites will be finalized. As far as all of the reconstruction that's going on in Lahaina through at least February of 2025. So we have already got it in place that AFDIL will provide services as well as DPAA with anthropology needs in case we have another unexpected recovery. Realize that that work is still going on in Lahaina. The rapid DNA provider again is also continuing to analyze those challenging samples. So we are still working on DNA analysis.

**Mikalaa Martin** [00:44:40] And on the same page as the lessons learned to establish MOUs earlier in advance. Are there any other lessons learned from this mass disaster that are being utilized to develop actionable next steps regarding deployment strategies and infrastructure needs?

**Anthony Earles** [00:44:57] Our preliminary after action report was issued by the police department about six months after the fire. It lists 32 recommendations at that point. I think our final after action report will have a few more. But there were already 32 recommendations that we had identified that are already in progress and underway. From our side of receiving recoveries. I will say that recovery photography and notes was very vital in looking back and answering questions that would come up during the autopsy process. Sometimes there were questions as to, you know, was the recovery from indoor versus outdoors? Was the location next to a concrete structure or were they next to a structure that was totally damaged? Was it a partial or a whole cremation? And again, your photography and your notes by those recovery teams turned out to be vital. So I know a lot of times when your recovery teams are tempted to just make the recovery and move on, take the few moments to document properly, it will help your investigation. Also get those anthropologists and the fingerprint experts integrated into the process as soon as possible. The anthropologists, they are trained to recognize human remains. A lot of times the structural debris that has been damaged can be confused with human remains or human remains may be overlooked. A lot of times also there are animal, non human remains. We even had one recovery that was a medical specimen that was deemed by a forensic pathologist to not be a decedent from the fire. The fingerprints. Again, those are your quickest and easiest identification, generally giving quicker closure to families. So get that help on site earlier.

**Mikalaa Martin** [00:47:06] Moving into post deployment efforts. And you've alluded to it a couple of times during our discussion is the preliminary after action report that was issued by Maui Police Department. Can you talk us through some of the major findings and takeaways from that report, as well as any lessons learned from the overall deployment effort that you think would be valuable to share with our listeners today?

**Anthony Earles** [00:47:31] As I mentioned a little earlier, I reiterate the importance of being involved with your statewide and regional forensic partners before you need each other. We as a statewide group, including the FBI evidence response team in Honolulu, have had long standing relationships. We have regular meetings. We get together and we discuss forensics as far as a future for the state, but also problem solve some of the challenges that we all have. No matter where you are, we all have the same challenges in the forensic community. So the DMORT, for example, the DMORT personnel from the mainland, they have the same challenges that we have here on Maui. It's just that their location may have a little different perspective to it. Also, I would recommend build your

relationships with your community. We are again fortunate to be a small community, so we are friends with our neighbors. So I was able to pick up the phone and call the owner of the property next door and say, Hey, you may have heard about our situation. We need to use your property. We need to use it for expansion of our morgue facility. We're going to be bringing in some refrigerated shipping containers. Are we okay to move forward? So, again, build your community together before you need them.

**Mikalaa Martin** [00:48:55] Thank you for your time discussing this case study as well as your experiences and lessons learned Tony. It has been a pleasure talking with you today.

**Anthony Earles** [00:49:03] And thank you very much. Aloha.

**Mikalaa Martin** [00:49:06] If you enjoyed today's episode, be sure to like and follow Just Science on your platform of choice. For more information on today's topic and resources in the forensics field, visit [forensiccoe.org](http://forensiccoe.org). I'm Mikalaa Martin, and this has been another episode of Just Science.

**Introduction** [00:49:28] Next week, Just Science sits down with Tim Fayle to discuss social media, fingerprint and other inadvertently photographed ridge detail. Opinions are points of views expressed in this podcast represent a consensus of the authors and do not necessarily represent the official position or policies of its funding.