



2016

ANNUAL REPORT SUMMARY

MARYLAND STATE POLICE

FORENSIC SCIENCES DIVISION

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FORENSIC SCIENCES DIVISION

DESCRIPTION



The Maryland State Police Forensic Sciences Division (MSP-FSD) is comprised of the Office of the Director, the Operational Services Branch, and the Scientific Analysis Branch.

The Office of the Director consists of the Director, Deputy Director, Assistant Commander, and Quality Assurance / Safety Manager. This administrative unit is responsible for the overall management of the division. The Director oversees the management of the entire Division while the Assistant Commander oversees the Operational Services Branch and the Deputy Director oversees the Scientific Analysis Branch. The Operational Services Branch consists of two Sections comprised of seven Units. The Scientific Analysis Branch consists of four Sections comprised of thirteen Units. The personnel within the Operational Services Branch and the Scientific Analysis Branch provide scientific support services to the law enforcement community.

The MSP-FSD operates under the following principles:

Core Values

Our dedication to integrity, fairness, and service ensures that our clients are always provided with reports and expert testimony that are informative, ethical, reliable, and scientifically valid.

Mission Statement

The mission of the Forensic Sciences Division is to serve as the model laboratory for the analysis of forensic evidence in the State of Maryland by employing the following elements:

- Promotion of employee morale through a respectful and unified work environment.
- Meeting the forensic science needs of Maryland and its citizens.
- Maintaining ISO 17025 accreditation and compliance with all oversight requirements.
- Minimizing backlogs and turn around time.
- Operating in a planned, prepared, and proactive manner.

Vision Statement

- To respect, acknowledge, value, challenge, and retain our employees.
- To collaborate with other laboratories and agencies and maximize the forensic services available to Maryland and its citizens.
- To promote state of the science operations through continuing education and the routine evaluation of current procedures.
- To eliminate backlogs and initiate cases upon submission.
- To maximize the public's return on investment by ensuring that sufficient resources are always available to the FSD and that those resources are always procured in the most fiscally responsible manner possible.

DIRECTOR'S SUMMARY

Daniel E. Katz

The lives of the Forensic Sciences Division (FSD) staff are filled with pressures. There are time pressures such as how quickly you can respond to a crime scene, how soon you can provide investigators with that crucial lead, and whether you can complete a case in time to meet the trial date. There are scientific pressures to ensure that the analysis, data interpretation, and reporting is done to the highest level of scientific accuracy. There are the pressures associated with providing testimony in an adversarial court system in which you are obligated to remain impartial and fair. There are the pressures of balancing all of this with personal lives that can be complicated, stressful, and demanding in their own right. On top of all that, FSD found itself facing the additional pressure of having to do more with less in 2016.

FSD has an allocated strength count of 102 employees. The average vacancy rate in 2016 was 20% with as many as 26 total vacancies at one time. This meant that several units had to operate with significantly less manpower. The Central Receiving Unit found itself in such a situation; however, due to the organization and work ethic of the Central Receiving Unit, along with the assistance of a dedicated light-duty Trooper temporarily assigned to the unit, they were able to receive even more cases than they did in 2015 when they had a full staff.

In addition to the lack of staffing, resources were also lacking for other reasons. For instance, there was a federal mandate in which the FBI changed the number of CODIS core loci from 13 to 20 and required that all CODIS participating laboratories be online with testing the new 20 core loci by the end of 2016. In short, the Biology Section had to purchase new reagents and equipment, perform validation studies on the new testing platform, create new standard operating procedures based on the validation results, and finally train the entire Biology staff on how to competently use the new testing platform as well as interpret the new data. Through excellent planning and preparation, the Biology Section was able to achieve this huge task ahead of schedule and with minimal impact on the DNA casework and DNA database operations.

Another area in which FSD was hit in 2016, was the loss of experience and leadership resulting from the retirements of long time staff. The Latent Prints and Impressions Unit was hit particularly hard as 3 of its 8 members retired, including the manager, the supervisor, and a senior level forensic scientist. While the loss of these individuals definitely impacts the output of casework from the unit, perhaps of even more concern is the loss of a combined 53 years of latent print experience. There was a need for the remaining staff to prove both to themselves and to their customers that they are capable and ready to lead their unit into the future. They did so emphatically when all of them successfully became Certified Latent Print Examiners through the International Association for Identification.

These are just a few examples of how FSD found ways of continuing to succeed despite limited resources, but the reality is that doing more with less is not a long term solution. During such times when we find there are simply not enough people, time, or money

available to continue as we always have, we must take the opportunity to reevaluate our current practices.

Such an opportunity presented itself when the vacancy rate in the Crime Scene Section reached as high as 47% during 2016. Despite the incredible lengths to which the section went to provide the State of Maryland with crime scene response coverage 24 hours a day, 7 days a week, 365 days a year as it always had, the increased on-call schedules and increased coverage areas simply were not sustainable. As a result, there was a need to implement changes to the way we operate. The first change involved deciding that we should not respond to every customer request for a crime scene response, but rather take charge of dictating to which crime scenes we respond based on the role and resources of our agency. This involved implementing a new requirement that all requests be made through a Crime Scene Technician Supervisor rather than the customer directly contacting the Crime Scene Technicians. Furthermore, a decision was made that Crime Scene Technicians would no longer routinely respond to minor crimes against property. Lastly, it was determined that the responsibility for evidence transports to and from the laboratory needed to be shifted away from the Crime Scene Technician and back to the customer. While it is critical to provide excellent customer service, there also is a need to make sure that our limited resources are used and the taxpayer's money is spent as responsibly as possible.

There were several other examples of finding better ways of doing things in 2016 in light of resource challenges. The Firearms and Toolmarks Unit entered into an agreement with the ATF to eliminate our backlog of potential NIBIN database matches that had grown because of limited staff. Not only does this agreement provide us with an additional resource to evaluate potential NIBIN matches, but it has resulted in a reworking of the Firearms and Toolmarks Unit's workflow which will better balance casework and NIBIN database activities into the future. Also, the Toxicology Unit faced long turnaround times for blood alcohol and blood drug casework due to a lack of staffing. By reassigning blood alcohol duties to two CDS chemists, the existing Toxicology staff could focus on the more labor intensive blood drug casework, and as a result, the Toxicology Unit completed 39% more cases than they did the previous year.

As 2017 begins, the availability of resources is expected to improve, but even as they do there still needs to be a commitment to maximizing our efficiency. To that end, several initiatives are planned. First, FSD will implement a new Case Management program. This will include the creation of a lab-wide Case Management standard operating procedure to bring uniformity to how casework assignments are prioritized and monitored throughout FSD. In addition, each unit will be responsible for creating their own Case Management policy that will detail procedures unique to them. Furthermore, a Case Management Section will be created to coordinate the evidence transport, central receiving, and StarLIMS roles ensuring that they all are operating in conjunction with one another as efficiently as possible. Second, there is a need to enhance and streamline our IT, procurement, and hiring support services. While these services are currently available, there is a need to give FSD more control in these areas in order to maximize our efficiency. The size of our Division along with the technical nature of what we do warrants our own IT team, our own procurement officer, and our own human resources representative. Third, we will continue to push

forward with the implementation of StarLIMS. In 2016, the CDS Unit became the first laboratory unit to operate fully within StarLIMS. The stage is set to expand the use of StarLIMS to other laboratory units as well as to our customers, both of which will further enhance our efficiency. Finally, FSD will join Project FORESIGHT which is a program sponsored by West Virginia University that allows crime laboratories to report key business metrics and receive back a statistical report indicating their level of productivity and cost effectiveness compared to optimal levels as well as levels of other forensic laboratories. Knowing this information is critical to making informed decisions in regards to resource allocations, efficiencies, and value of services.

In conclusion, we have a responsibility to operate at the highest level of efficiency, but it needs to be absolutely clear that FSD will never make a business decision at the expense of quality or the well-being of our staff. The level of dedication and professionalism that the men and women of FSD display everyday as public servants fills me with extreme pride and appreciation. Unfortunately, there will always be pressures placed on the good folks at FSD, but rest assured that the Top Management team of Quality Assurance/Safety Manager Theresa DeAngelo, Assistant Commander F.Sgt. Laura Beck, Deputy Director Dr. Wanda Kuperus, and myself are fully committed to doing whatever we can to minimize those pressures... because our staff is our most important resource.

STATISTICAL SUMMARY

Activity Summary - Operational Services Branch				
	2013	2014	2015	2016
Crime Scene Section				
Crime Scene (Crime Scenes Processed)	904	765	696	644
Central Receiving Unit				
CDS cases submitted for destruction	6,330	7,650	9,025	7,704
Forensic Cases Received	21,127	19,488	13,023	13,121
Photography Unit				
Special Assignments	187	257	193	255
VierPic/Color Film Rolls Processed	296	173	306	927
Color Prints	6,023	7,133	3,771	4,324
ID Cards	--	--	642	689

Crime Scene Summary								
Crime Scene Crime	Scenes Processed		MSP Scenes		Allied Agency		Scene Assists	
	2015	2016	2015	2016	2015	2016	2015	2016
Eastern	314	295	46%	47%	54%	53%	25	23
Western	216	138	68%	65%	32%	35%	23	23
Central	166	211	71%	77%	29%	23%	56	27
Totals	696	644	59%	57%	41%	43%	104	73

Activity Summary – Scientific Analysis Branch			
	2014	2015	2016
Latent Prints/Impressions			
Cases Received	1,085	1,167	1,235
Cases Completed	1,827	1,658	1,321
MAFIS Latent Hits	309	494	394
Case Uploads to MAFIS	555	704	594
Latent Print Uploads to MAFIS	1,282	1,832	1,362
Firearms/Toolmarks			
Cases Received	684	660	568
Cases Completed	488	812	765
Case Uploads to NIBIN	331	595	480
Operation Test Shot Samples Completed	132	424	174
MSRD Samples Processed	68,883	16,168	0
CDS			
Cases Received in Pikesville	7,462	2,873	3,216
Cases Received in Berlin	4,634	2,623	2,734
Cases Received in Hagerstown	3,611	1,159	1,340
Subtotal Cases Received	15,707	6,655	7,290
Cases Received by Allied Forensic Scientists*	--	2,257	2,342
Total Cases Received	15,707	8,912	9,632
Cases Completed in Pikesville	7,874	3,407	2,821
Cases Completed in Berlin	4,900	2,718	2,642
Cases Completed in Hagerstown	4,140	1,310	1,514
Subtotal Cases Completed	16,914	7,435	6,977
Cases Completed by Allied Forensic Scientists*	--	2,324	2,108
Total Cases Completed	16,914	9,759	9,085
Toxicology			
Blood Alcohol Cases Received	718	698	740
Blood Drug Cases Received	348	400	347
Total Cases Received	1,066	1,098	1,087
Blood Alcohol Cases Completed	700	542	854
Blood Drug Cases Completed	271	315	338
Total Cases Completed	971	857	1,192
Biology			
Submitted Casework (Cases Received)	542	643	675
Direct Outsourcing Casework (Cases Received)	223	370	244
Total Cases Received	765	1013	919
Submitted Casework (Cases Completed)	628	597	657
Direct Outsourcing Casework (Cases Completed)	173	319	325
Total Cases Completed	801	916	982
Database (Total CODIS Hits)	623	857	796
Database (Arrested/Charged CODIS Hits)	104	139	145
Database (Convicted Offender Uploads to CODIS)	3,569	3,533	4,038
Database (Arrested/Charged Uploads to CODIS)	4,144	3,524	3,555
Database (Case Uploads to CODIS)	954	1,065	1,010

Activity Summary – Scientific Analysis Branch			
	2014	2015	2016
Trace Evidence			
Cases Received	147	134	156
Cases Completed	274	144	161
Question Documents			
Cases Received	34	39	20
Cases Completed	37	38	24

*CDS-Allied = Forensic Scientists hired by allied agencies or other governmental entities who are authorized to perform CDS analysis in FSD facilities under the provisions provided for in a Memorandum of Understanding. Prior to 2015, data for this group were combined with the CDS Units in which the work was performed.

Scientific Analysis Branch Casework Summary								
Unit	Cases Received		MSP Cases Received		Allied Agency Cases Received		Cases Completed	
	2015	2016	2015	2016	2015	2016	2015	2016
Latent Prints/Impressions	1,167	1,235	18%	21%	82%	79%	1,658	1,320
Firearms/Toolmarks	660	568	24%	24%	76%	76%	812	765
CDS-Pikesville Lab	2,873	3,216	23%	27%	77%	73%	3,407	2,821
CDS-Berlin Lab	2,623	2,734	21%	28%	79%	72%	2,718	2,642
CDS-Hagerstown Lab	1,159	1,340	28%	45%	72%	55%	1,310	1,514
CDS-Allied*	2,257	2,342	16%	17%	84%	83%	2,324	2,108
Toxicology – Blood Alcohol & Blood Drug	1,098	1,087	29%	32%	71%	68%	857	1,192
Biology- Submitted	643	675	13%	15%	87%	85%	597	657
Biology- Direct Outsourcing	370	244	2%	2%	98%	98%	319	325
Trace Evidence	134	156	59%	68%	41%	32%	144	161
Questioned Documents	39	20	21%	20%	79%	80%	38	24
Totals	13,023	13,617	23%	27%	77%	73%	14,184	13,529

*CDS-Allied = Forensic Scientists hired by allied agencies or other governmental entities who are authorized to perform CDS analysis in FSD facilities under the provisions provided for in a Memorandum of Understanding.

Quantity of FSD Requests by County						
County	2015			2016		
	Cases Submitted to Lab	Crime Scenes	Total	Cases Submitted to Lab	Crime Scenes	Total
Frederick	1,521	23	1,544	1,504	22	1,526
Wicomico	954	94	1,048	1,175	92	1,267
Harford	963	14	977	979	17	996
Charles	1,030	4	1,094	941	3	943
Worcester	888	30	918	848	31	879
Cecil	956	68	924	825	72	897
Calvert	825	6	831	790	4	794
Carroll	623	56	679	648	57	705
Howard	546	7	553	673	9	682
Anne Arundel	509	16	525	606	14	620
Allegany	495	110	605	558	58	616
St. Mary's	511	6	517	544	3	547
Dorchester	460	28	488	448	22	470
Statewide	477		477			
Washington	261	17	278	401	13	414
Talbot	300	16	316	370	28	398
Baltimore	308	23	331	356	37	393
Somerset	171	13	204	339	46	385
Prince George's	302	5	307	322	11	332
Queen Anne's	240	37	277	281	46	327
Caroline	210	38	248	226	18	244
Baltimore City	23	10	33	222	16	238
Montgomery	211	1	212	198	2	200
Garret	127	29	156	159	10	169
Kent	159	24	183	150	13	163
Not Determined*	43		43	42		42
Out of State	10		10	12		12
Others		1				
Totals	13,023	696	13,719	13,617	644	14,261

*2015 Not determined includes: Barrack I Easton (18), Barrack M JFK Highway(6), Barrack S Ccentreville (19).

2016 Not determined includes: Barrack I Easton (17), Barrack M JFK Highway(4), Barrack S Ccentreville (15) MSP Princess Anne(2), MSP Snow Hill (1), MSP-CED(3)