

# NORTH CAROLINA STATE CRIME LABORATORY UPDATE

JOHN A. BYRD  
LABORATORY DIRECTOR



# JOHN A. BYRD

- June 2, 2014
- 20 Years—Manager in Digital Evidence, Latent Evidence, Forensic Biology (DNA), DNA Database
- Operation Iraqi Freedom
- Brigadier General-North Carolina National Guard

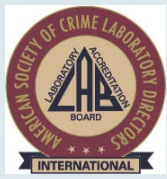


# Landscape

- **10<sup>TH</sup> MOST POPULOUS STATE**
- **10<sup>TH</sup> LARGEST ACCREDITED STATE CRIME LAB**
- **27,000 LAW ENFORCEMENT OFFICERS**
- **600+ LAW ENFORCEMENT AGENCIES**
- **100 NORTH CAROLINA COUNTIES**
- **44 DISTRICT ATTORNEYS**







# FORENSIC ANALYSES CONDUCTED AT RALEIGH LABORATORY (STATEWIDE):

- **DNA Database**  
maintenance of State DNA Database
- **Drug Chemistry**  
controlled substances
- **Firearm & Tool Marks**  
weapons, ammunition, unidentified markings
- **Forensic Biology**  
blood, body fluids, DNA testing
- **Latent Evidence**  
fingerprints, palm prints, footprints, footwear, tire impressions
- **Toxicology**  
controlled substances; alcohol/drugs in blood/urine
- **Trace Evidence**  
hair, fiber, glass, paint, headlight filaments, gunshot residue, explosives and fire debris



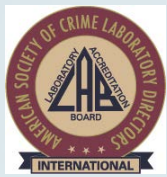
# REGIONAL LABORATORIES

## **FORENSIC ANALYSES CONDUCTED AT TRIAD LAB (12 COUNTIES):**

- **Drug Chemistry**
- **Latent Evidence**
- **Toxicology**

## **FORENSIC ANALYSES CONDUCTED AT WESTERN LAB (36 COUNTIES):**

- **Drug Chemistry**
- **Firearm & Tool Mark**
- **Latent Evidence**
- **Trace Evidence**
  - (fire debris only)



# Crime Lab Achievements

## Quality Assurance

- Laboratory Director with science background
- Dual ISO/IEC 17025 Accreditation
- Each analyst individually certified
- DNA Quality Assurance Audit
- Forensic Science Advisory Board
- Lab Legal Counsel

## Transparency & Awareness

- Forensic Advantage (Lab Information Management System) enhances transparency for users
- Tours of Laboratory Facilities for judicial and defense stakeholders
- Customer Feedback through formalized court reports & annual survey

# Methodology Successes

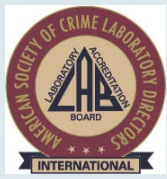
## Efficiency

- Lean Six Sigma Project
- Identification of resolved cases / analysis to be returned via Forensic Advantage
- Case management guidelines
- Robotic Technology
- RFP / Contract for private lab analysis
- Blood Alcohol analysis by hospitals
- Mandatory Overtime
- Training by contract vendor

## Collaboration

- Court Scheduling
- School of Government Crime Lab Working Group
- Training for Conference of District Attorneys & Def Att.
- Local law enforcement / DA evidence submission training
- Judicial Education trainings with School of Government





# BIGGEST CHALLENGE:

- **ATTRITION AND NON COMPETITIVE FORENSIC SCIENTIST PAY**

**JANUARY 1, 2010 – JUNE 30, 2014**

**70 – Scientist Separations:**

**35 – “better employment” (50%)**

**8 -- retirement**

**16 -- no reason or “personal reasons”**

**11 -- miscellaneous reasons**

## Per analyst training cost to State:

Assuming a 2 year Lab investment in employing, training & developing a new scientist and adding scientist salary & costs: \$114,625

$$35 \times \$114,625 =$$

**\$4,011,875**

## 2013 NC DOJ Independent Salary Survey of Forensic Scientists:

NCSCSL 16% *“below the average minimum, maximum and survey total averages”*

HB 1093 requested:

- Proposal from House Committee on Judicial Efficiency and Effective Administration of Justice - Sponsored by Co-Chairs, Bipartisan 24 House Members
- Provides a 10% Salary Increase
- Supported by NC Sheriff's Ass'n., NC MADD, NC Forensic Science Advisory Board, NC Ass'n. of County Commissioners
- Referred to House Appropriations Committee

**\$992,237**



# ADDITIONAL CHALLENGES

- **LABWIDE CASE SUBMISSIONS**

**FY 2009/10--2013/14: 181,023 case submissions**

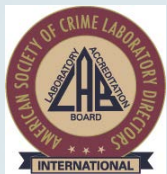
**Average: 36,204.6 per year**

- **TOO FEW FORENSIC PERSONNEL--**

**FY 2013/14: 124 case working scientists\*\***

- **EXTENSIVE OVERTIME--**

**FY 2013-14: 7,776 hrs. (= 3.7 FTE @ 40 hrs./wk for 52 weeks);  
\$318,401**



# Toxicology

## TOXICOLOGY CASE SUBMISSIONS

**FY 2010/11 - 2013/14: Average 8,010 per yr.**

**36%--Western Lab Counties**

## TOO FEW TOXICOLOGISTS

**FY 2013/14: 12 case working toxicologists**

**\*\*July 1, 2013 Appropriations Act - 19 New Toxicologist Positions**





# Forensic Biology

## FORENSIC BIOLOGY CASE SUBMISSIONS

FY 2010/11 - 2013/14: Average—2,921 per yr.

2,337 (80%) were 1-20 item cases  
average 3.5 days or 28 hours to work

584 (20%) were 21+ items  
(occasionally exceeding 100)  
average 8 days or 64 hours to work

$2,337 \times 28 = 65,436$  required work hrs  
 $584 \times 64 = \underline{37,376}$   
102,812 total required work hrs

## TOO FEW DNA ANALYSTS

$102,812 \div 2080$  (52 weeks X 40 hours) = **49.4**

*Minimum* number of scientists to complete work—  
*IF* analyzing evidence a full 40 hours *every* week—  
not allowing for holidays, vacation, other duties,  
lunch, potty breaks

or  
**COURT TESTIMONY.**

FY 2012/13: 24 case working DNA positions

**\*\*2014 Appropriations Act:**  
10 positions, effective Mar. 1, 2015,

**“to establish a new Forensic Biology/DNA Unit at  
the Western Regional Laboratory”**



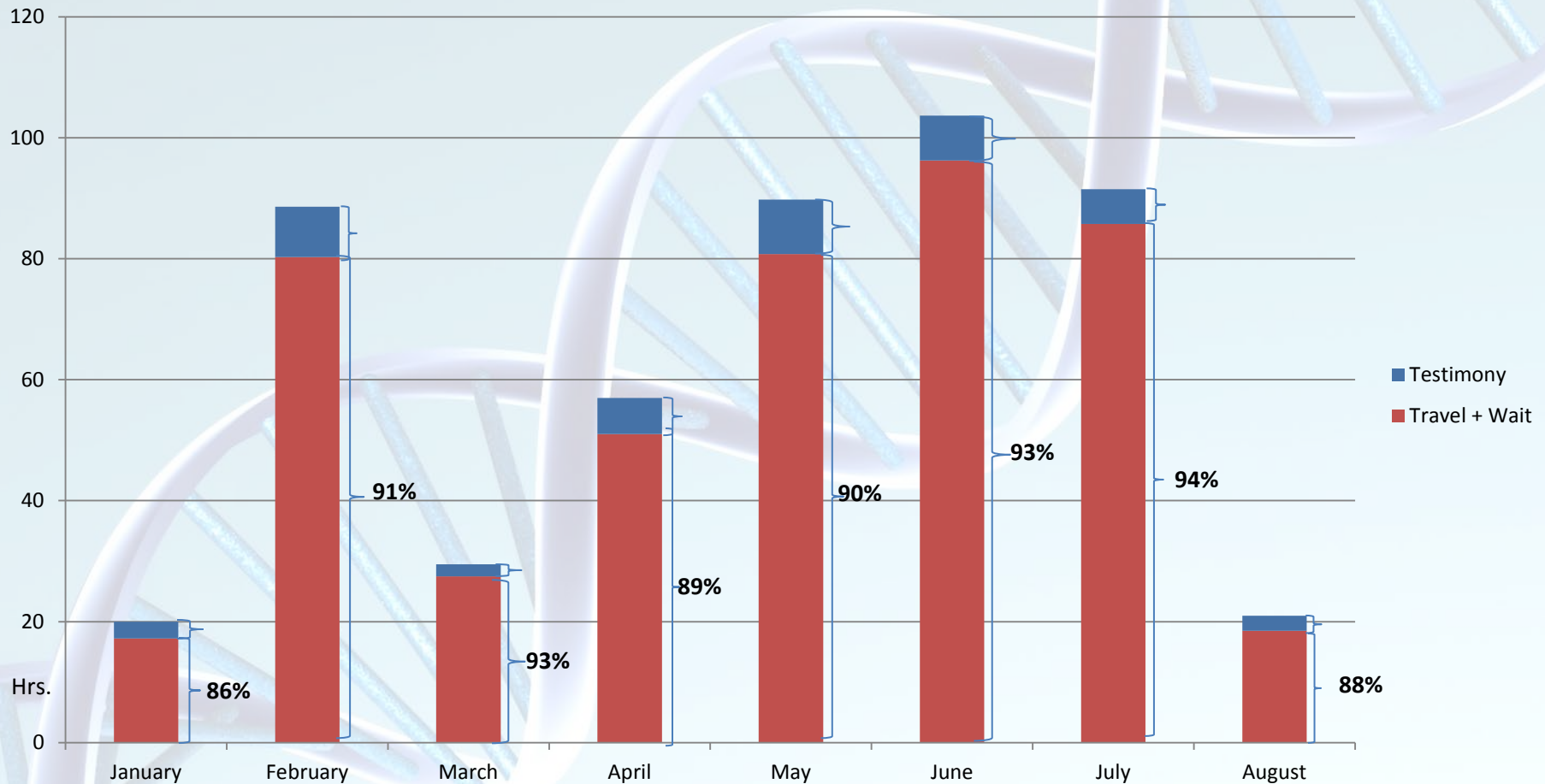
# ***MELENDEZ-DIAZ V. MASSACHUSETTS***

- **June, 2009—forensic scientists must present “live” testimony in criminal trials**
- **600% Toxicology Court Hours Increase in First Six Months**
- **FY 2013/14: 2,835 Court Hours = 70.86 Forty Hour Weeks**
- **9.7% (275) – “Live” Court testimony**



# Forensic Biology 2013

## Court and Travel/Wait Times





# **Update on New Western Laboratory**

**2014 Appropriations Act, § 36.12 (f) (1) :  
\$15,400.000 “to finance the capital facility costs  
of a Western Crime Lab”**

**36,031 Square Feet**

**48 Staff Members**

**751 Sq. Feet/Staff Member**

**Add Forensic Biology & Toxicology Services**

**Serve 36 counties**



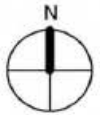
Site Plan Page 7



Edneyville, NC



Larry T. Justus Western Justice Academy



## North Carolina State Crime Laboratory – Western Regional Laboratory

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Aerial Photograph of Edneyville & Vicinity/Location Maps

Scale:

1" = 40'-0"

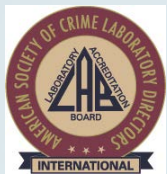
Project No.

1238.01

9/23/2014

North Carolina State Crime Laboratory

**RND**  
ROUGHTON NICKELSON DE LUCA  
architects



# Questions

<http://ncdoj.gov/crime-lab.aspx>