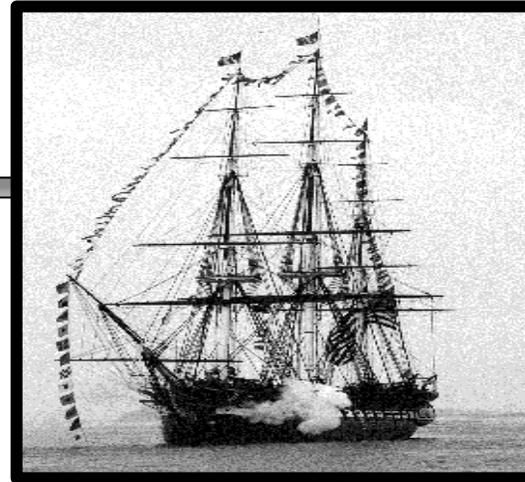




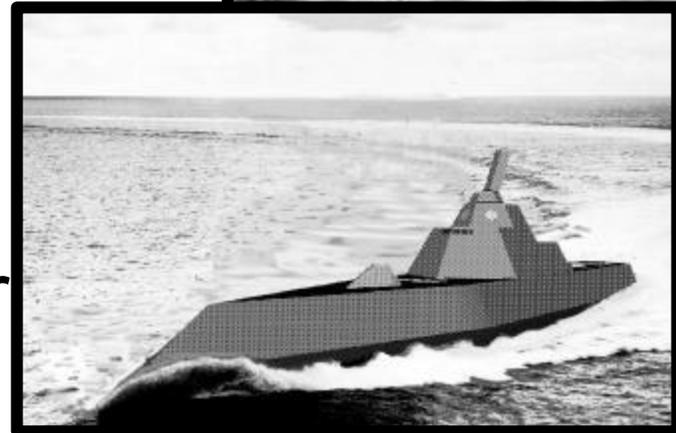
**2000 JOINT SERVICES SMALL
ARMS SYSTEMS
SECTION ANNUAL CONFERENCE**



Captain Scott Wetter



**Commanding Officer
Crane Division
Naval Surface Warfare Center
28 August 2000**

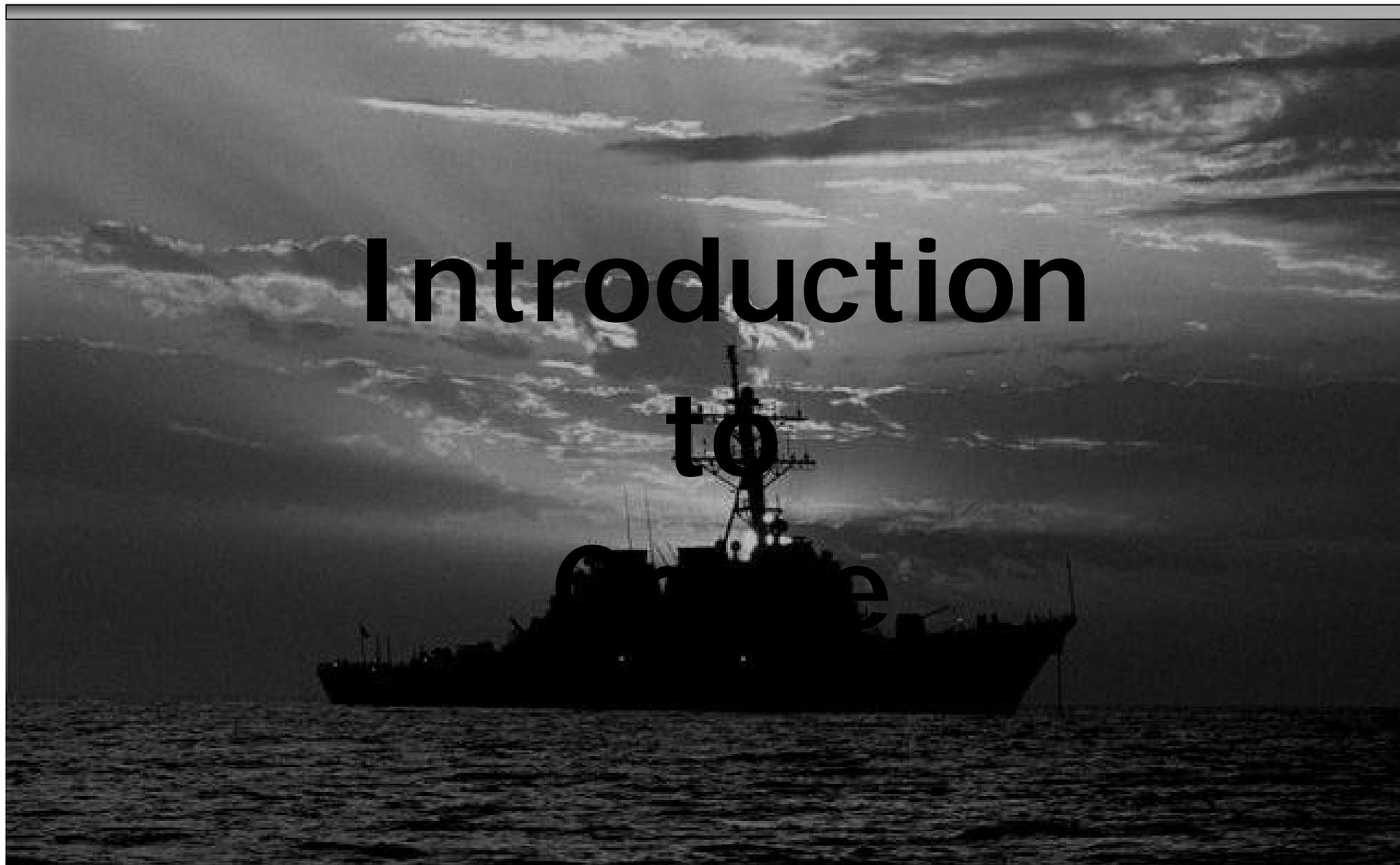




Introduction

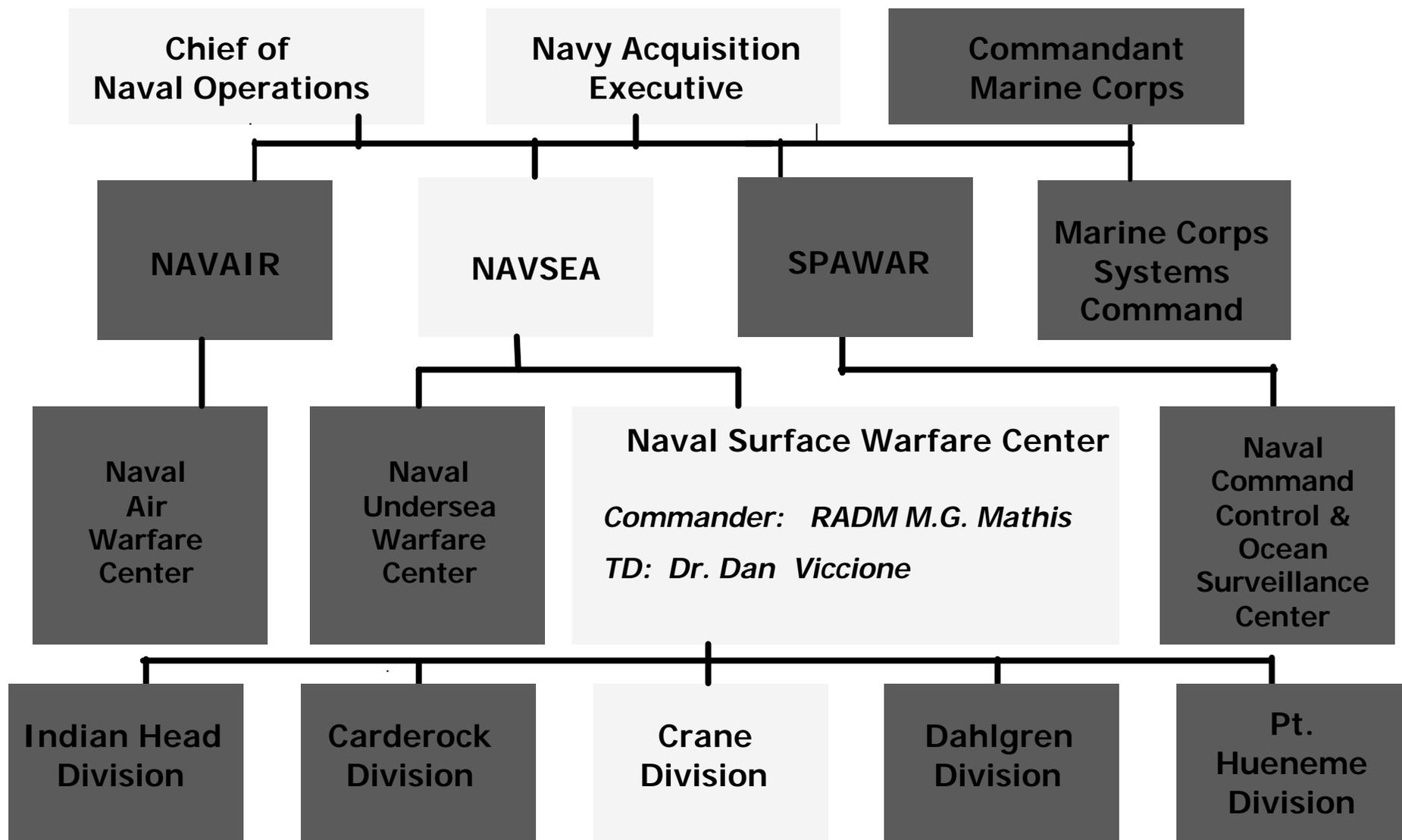
to

Crane





Where do we fit into the Navy hierarchy?





Vital Statistics

Second Largest Navy CONUS Base

- **Total Land Area.....62,842 acres**
 - **Main Site.....62,467 acres**
 - **Glendora Lake Facility.....365 acres**
 - **Fallbrook10 acres**
 - **Timberland.....48,583 acres**
 - **Perimeter Fence.....60 miles**
 - **Roads, Streets & Highways.....411 miles**
 - **Unpaved Roads.....226 miles**
 - **Railways.....163 miles**
- **Buildings & Structures.....2,912 (10.8 million sq. ft.)**
 - **Populated Buildings.....152 (2.4 million sq. ft.)**
 - **Storage.....(7.9 million sq. ft.)**
 - **Magazines.....1,705**
 - **Inert storage warehouses.....168**
- **Land Value.....\$80.0 million**
- **Facility Value (Current Plant Value).....\$1.3 billion**

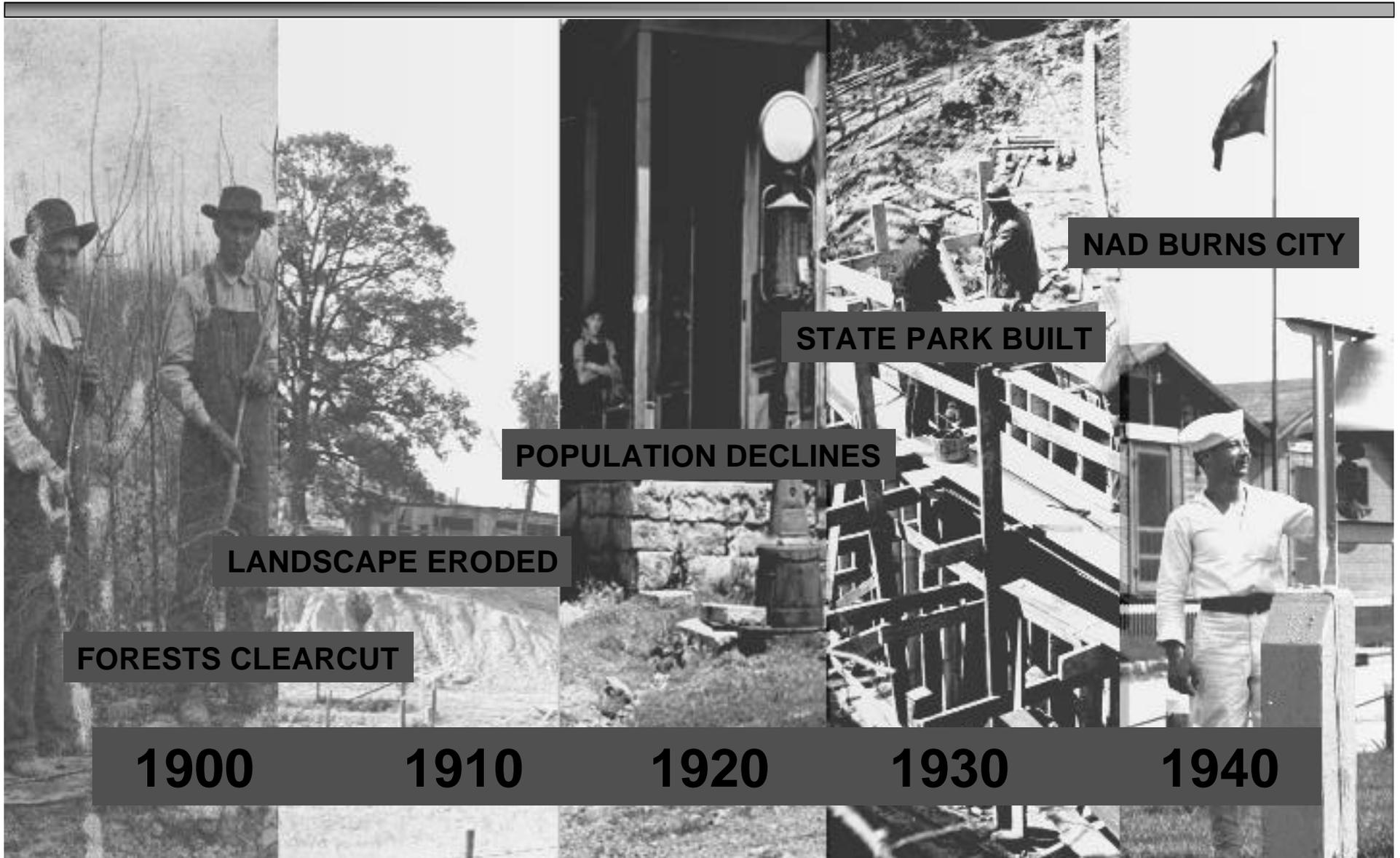


What We Do





Early Evolution of Crane



LANDSCAPE ERODED

FORESTS CLEARCUT

1900

1910

POPULATION DECLINES

1920

STATE PARK BUILT

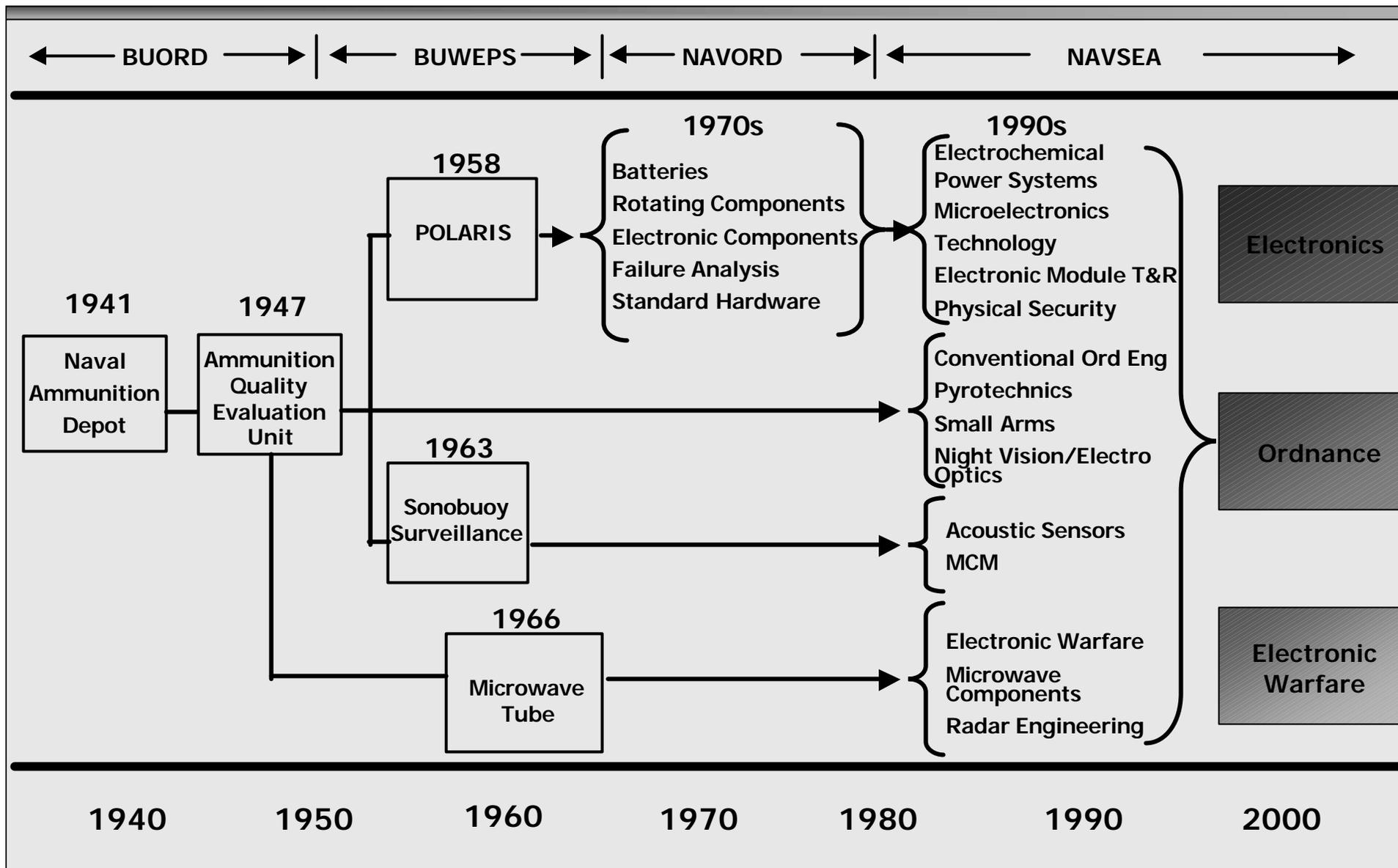
1930

NAD BURNS CITY

1940



Technical Capabilities Evolution





CRANE CORE EQUITY

Ordnance

- Small Arms
- Pyrotechnic Devices
- Bombs
- Missiles
- High Explosive Material
- Fuzes
- Gun Projectiles
- Special Munitions

Electronics

- Electrochemical Power Systems
- Displays & Peripherals
- Acoustic Sensors
- Microelectronics
- Computers & Processors
- Chem-Bio
- Physical Security

Electronic Warfare

- Electronic Countermeasures & Surveillance Systems
- Night Vision/ Electro-Optics
- Microwave Components
- Radar

Commercial Technology Application Management/Legacy System Management

Integrated Acquisition Teams/Specialized Material Management & Distribution

Rapid Fleet Response/Distance Support - Telemaintenance/Engineering Solution - 911

Business & Process Reengineering/Smart Buyer/Emergency Producer/System Integration & Upgrade

Joint Ordnance Life Cycle Activity (PM-Eng-Prod-Demil)/Environmental Licenses/Permits



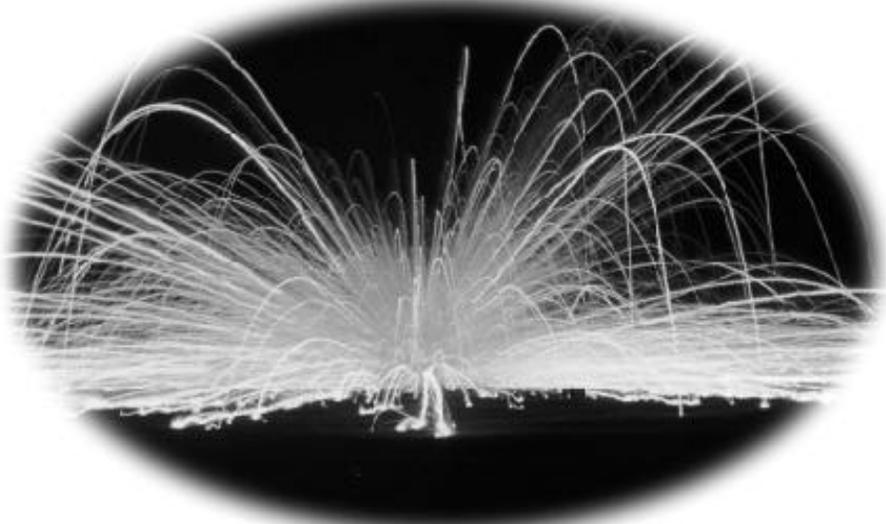
**2000 JOINT SERVICES SMALL
ARMS SYSTEMS
SECTION ANNUAL CONFERENCE**

Mr. David Schulte

**Ordnance Engineering Directorate
Crane Division
Naval Surface Warfare Center
28 August 2000**



CONVENTIONAL AMMUNITION ENGINEERING



FACILITIES

- 52 Engineering, Operating & Test Buildings (293 K square feet; \$33.4 M Plant Value)
- 10 Major Laboratories
- 78 Explosive Storage Magazines (200 K square feet including CAT I & II)
- 88 Acre Ordnance Test Area
- Lake Glendora Facility
- \$22 M Investment in Facilities/Equipment in past 5 years
- Co-located with CAAA for Manufacturing & Storage (671 K sq ft Production; 4.8 M sq ft storage)

CAPABILITIES

- Life Cycle Engineering Support
- Fleet Responsiveness
- Logistics Planning & System Support
- Ordnance Test, Evaluation & Analysis
- Ordnance Materials Characterization
- Environmental Simulation & Radiography
- Depot & Intermediate Maintenance
- Explosive Storage
- Manufacturing (CAAA: Prototype to Full Scale)

PERSONNEL

- 56 years Conventional Ammo History
- 165 Scientists & Engineers
- 119 Technicians
- 25 Wage Grades
- 36 All Others
- Total Workforce of 389
- 5854 Years of Experience
- Internationally Recognized Expertise

PYROTECHNICS



FACILITIES

- **Ordnance Unique Facilities**
(78K Square Feet, \$12 Million Plant Value)
- **Prototype Manufacture**
- **Windstream Test**
- **Automated IR Test**
- **88 Acre Ordnance Test Area**
- **Missile Seeker Characterization Lab**
- **Mobile Measurement Vans and Tracking Mounts**

CAPABILITIES

- **Design**
- **Development**
- **Modeling and Simulation**
- **Prototype and Limited Production**
- **Test and Evaluation**
- **Exploitation**
- **Transition to Production**
- **Acquisition Engineering**
- **In-Service Engineering**
- **Fleet Support**

PERSONNEL

- **Scientists & Engineers 55**
- **Technicians 35**
- **Wage Grades 10**
- **Total Workforce 100**
- **Navy Pyrotechnics Corporate Knowledge Base**
- **Forty Years Pyrotechnics History**
- **2500 Years Pyrotechnics Experience**
- **Internationally Recognized Expertise**

SMALL ARMS

CAPABILITIES



FACILITIES

- 120,000 square foot high-security building
- 25 yard indoor test range
- 100 meter Underground Test Facility with a Walk-In Environmental Chamber
- Small-Arms Repair Facility
- Powder-Coating Facility
- Prototype Fabrication Shop
- Vast Small-Arms Storage Area
- 1000 Yard Outdoor Test Range
- Ammunition loading facility for limited production
- 18,000 square feet of explosives storage

- Full Range of Life-Cycle Support Services
 - Concept Design
 - Structural Analysis
 - Computer Modeling
 - Prototype Fabrication/Limited Production
 - Environmental and Functional Testing
 - State-of-the-Art CNC Machinery
 - Safety Certification
 - Full-scale Development
 - Acquisition
 - Hardware Fielding
 - Logistic Planning and Support
 - Training
 - Maintenance and Repair
 - Inventory Management
 - Final Disposal if Needed.

PERSONNEL

- Dedicated Professional Workforce of 117 strong
 - 63% Degrees
 - Over 1,200 Workyears experience
- “Hands-on” knowledge (Engineering and Technical)
- Understanding of the Customers Needs both Conventional and Special Operations
- Fleet trained veterans



Current Small Arms Program Assignments

- **Special Operations Peculiar Modifications (SOPMOD)**
- **Advance Lightweight Grenade Launcher (ALGL)**
- **Navy Armed Helo**



Current Small Arms Industry Partnerships

- **General Dynamics / Saco – ALGL**
- **Nammo – Airburst 40mm grenades**
- **Kollmorgen – MK98 stabilized mount**
- **Sikorsky/Boeing – RAMICs**
- **AmTech – Plastic case ammunition**