USCG Office of Aviation Forces

Unmanned Aircraft Systems (UAS)

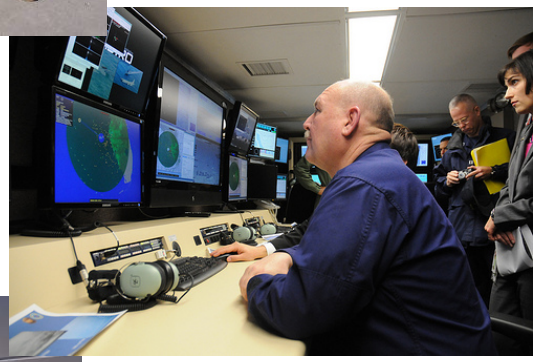
Coast Guard UAS Program

UAS Program Overview for ICMSSR
LCDR Jeff Vajda, UAS Platform Manager
USCG Office of Aviation Forces (CG-711)

04 FEB 2011

Agenda

- Overall Concept
- Coast Guard Missions
- Cutter-Based UAS
- Land-Based UAS
- Program Challenges
- Status/Way Ahead



UAS Concept

Land-Based UAS

Strategic MDA for the regional commander.

18,000 feet (Positive Control Airspace)

- Wide Area Surveillance to support Maritime Domain Awareness.
- Scheduled missions.
- 12- 24 hour endurance.

Cutter-Based UAS

Immediate tactical tool for the cutter.

8,000 feet

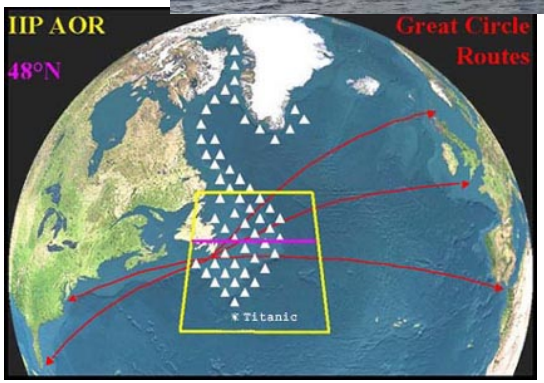
- Threat ID to support end-game interdiction.
- Real-time / On-demand missions.
- 5-8 hour endurance.

Protecting America thru the early detection of dangerous people and goods, BEFORE they can penetrate our maritime borders.

Coast Guard UAS Missions

Statutory:

- Search and Rescue (SAR)
- Marine Safety (MS)
- Alien Migrant Interdiction Operations (AMIO)
- Ports, Waterways, and Coastal Security (PWCS)
- Marine Environmental Protection (MEP)
- Aids to Navigation (ATON)
- Drug Interdiction (DRUG)
- Defense Readiness (DR)
- Living Marine Resources (LMR)
- Other Law Enforcement (OLE)
- Ice Operations (ICE)

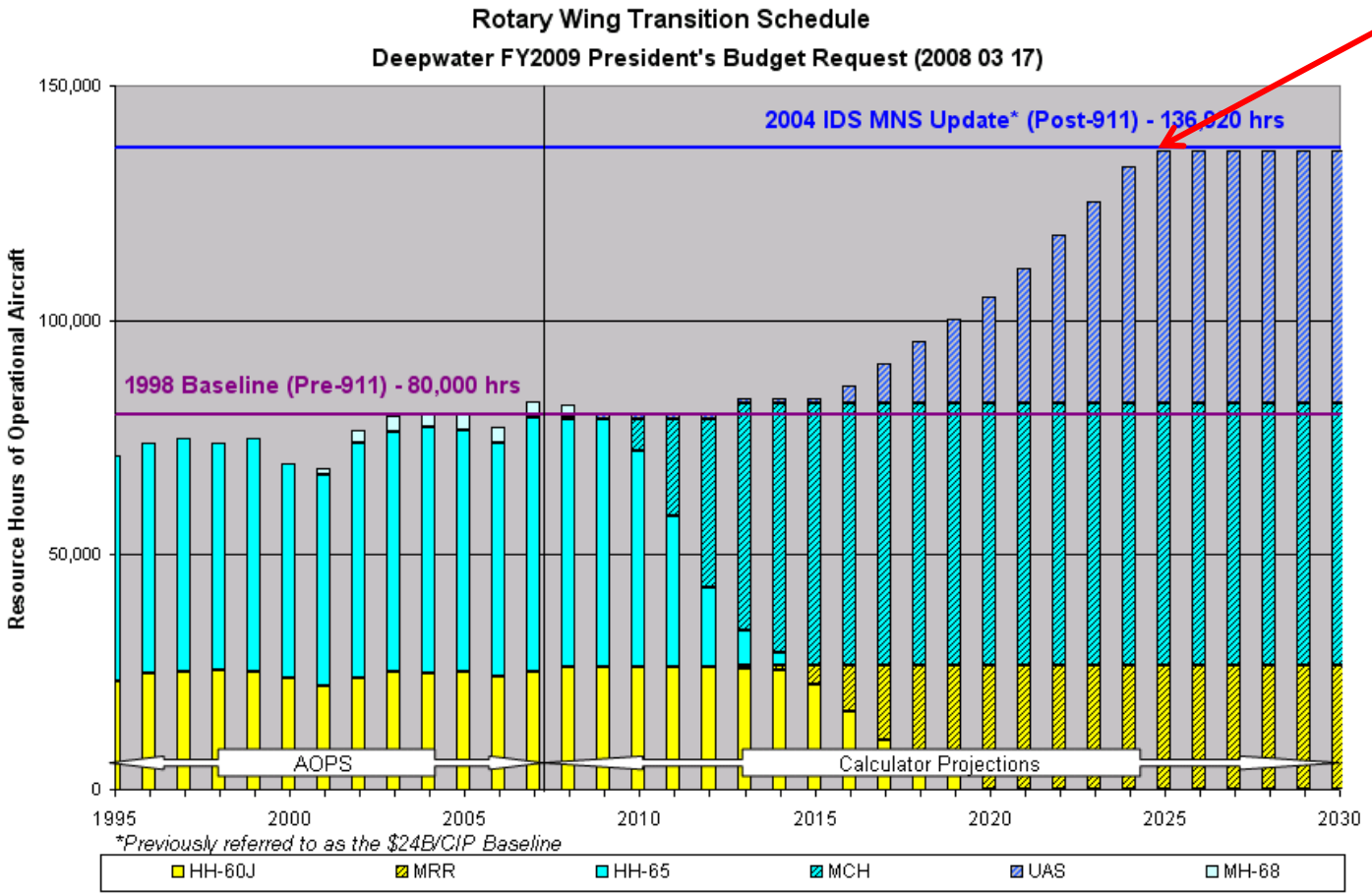


Non-Statutory and OGA:

- Homeland Security/Defense
- Maritime Domain Awareness
- Lightering Zone Enforcement

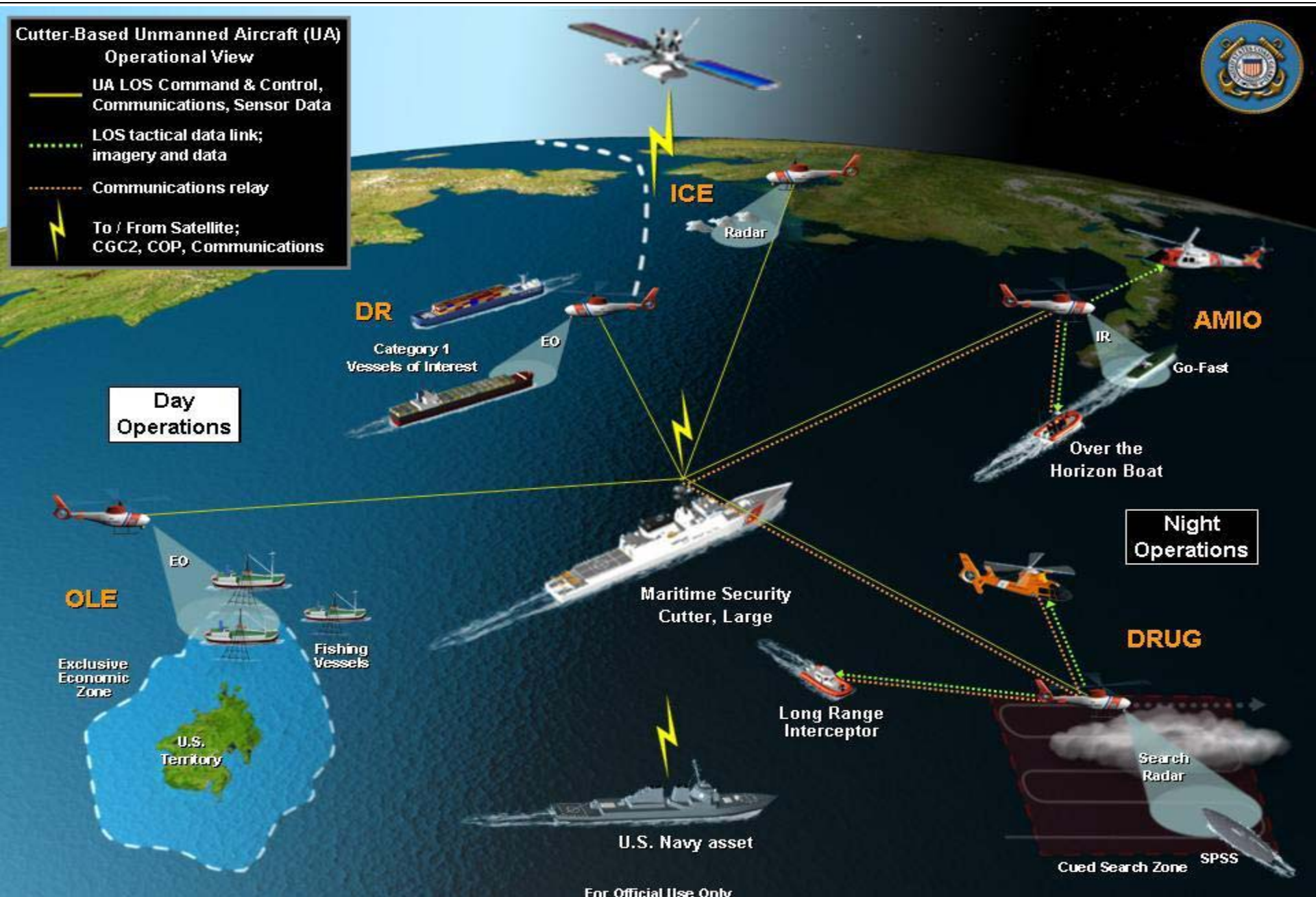
Cutter-Based UAS Requirement

Cutter-Based UAS contribution 54,00 hrs beginning in 2025.

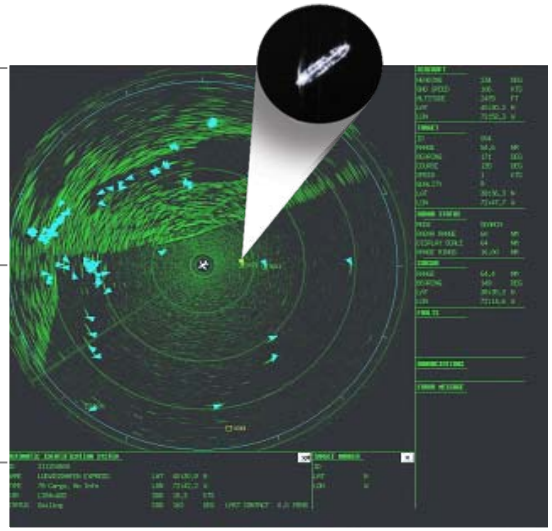


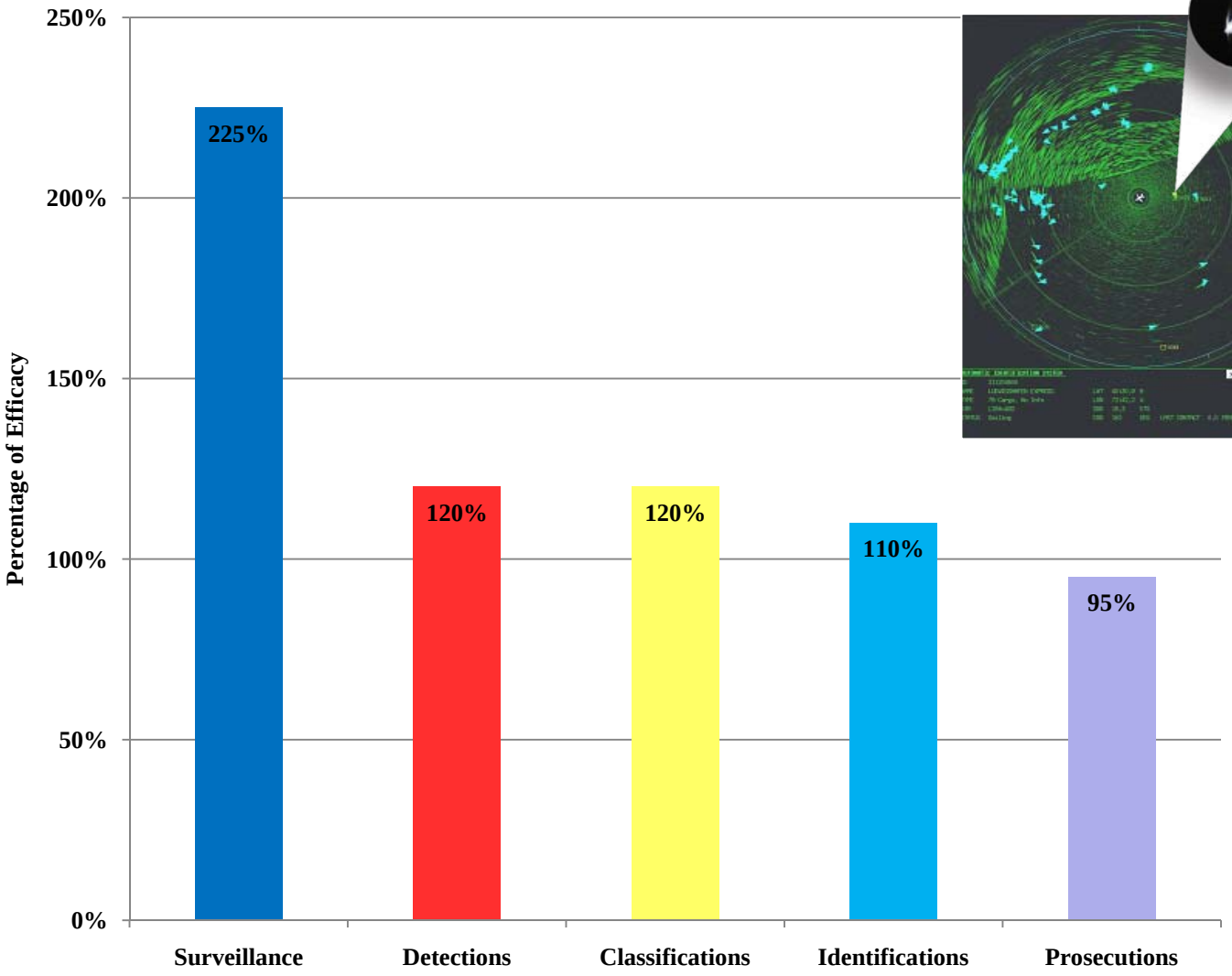
Note 1: UAS contributions are shown for graphic purposes using the UAS acquisition schedule from the Deepwater FY2008 Enacted Implementation Plan (2007 12 17). The UAS pre-acquisition activites/alternatives study will further inform this area.

Cutter-Based UAS CONOPS (WMSL)



Effectiveness – SDCIP Increase

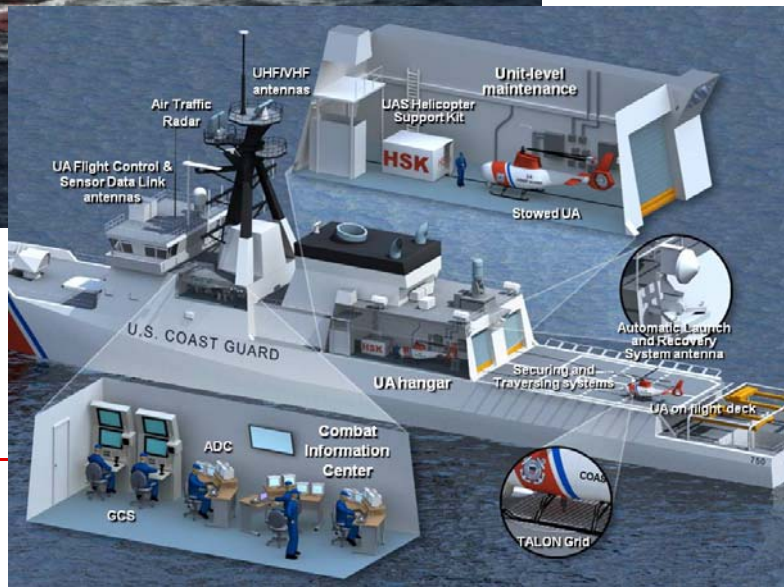




Source: 2010 UAS4NSC Study

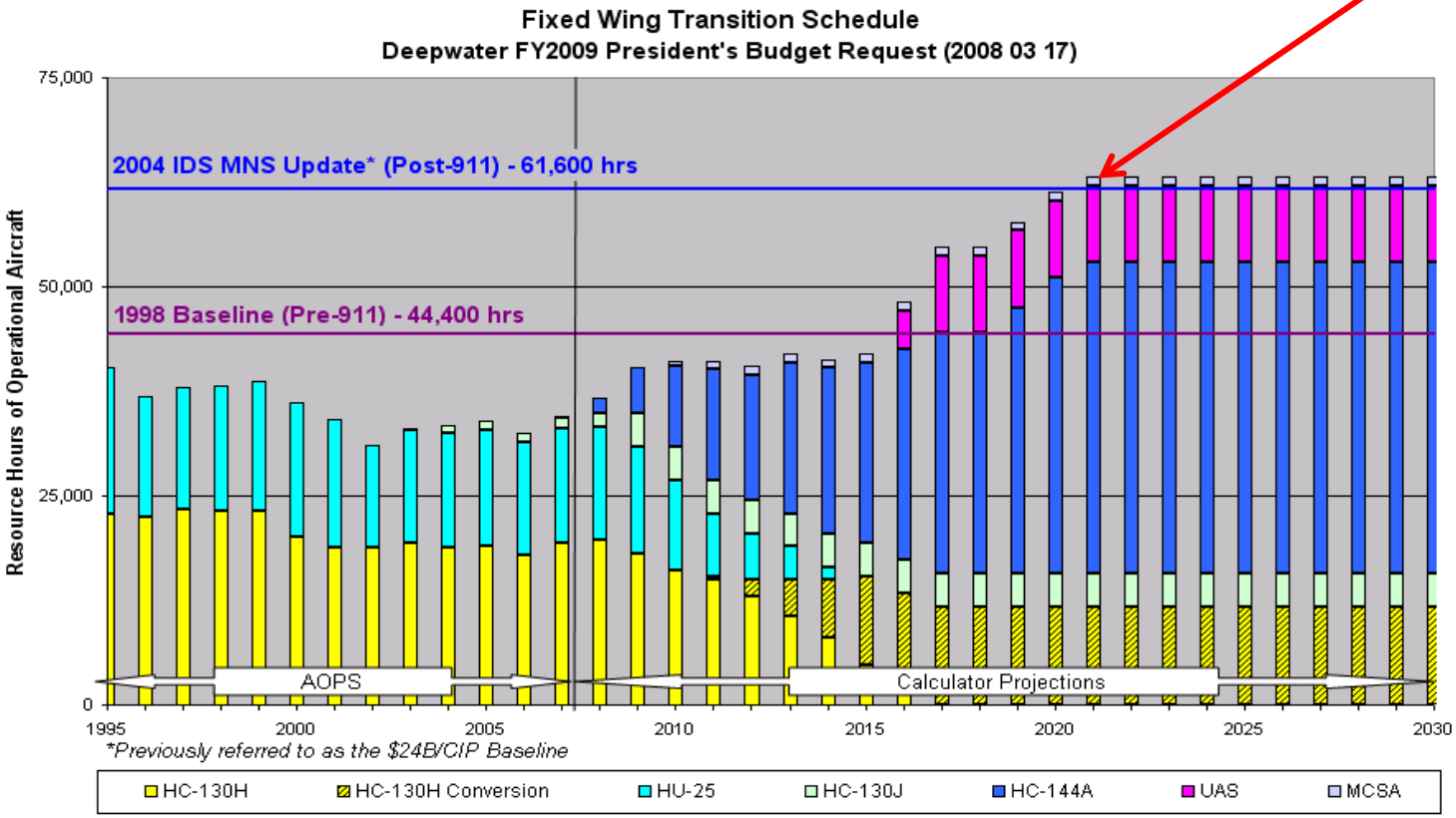
Current Capabilities - MQ-8B Fire Scout

Length Folded	**22.87 ft**
Rotor Diameter	**27.50 ft**
Height	**9.42 ft**
Gross Weight	**3,150 lbs**
Engine	**RR 250-C20W**
Speed	**125+ Knots**
Ceiling	**20,000 ft**
Flight Time (baseline payload)	**8+ Hours**
Flight Time (500 lb payload)	**5+ Hours**
Sensors	**Telephonics 1700B Radar** **Brite Star II EO/IR** **AIS Transceiver**



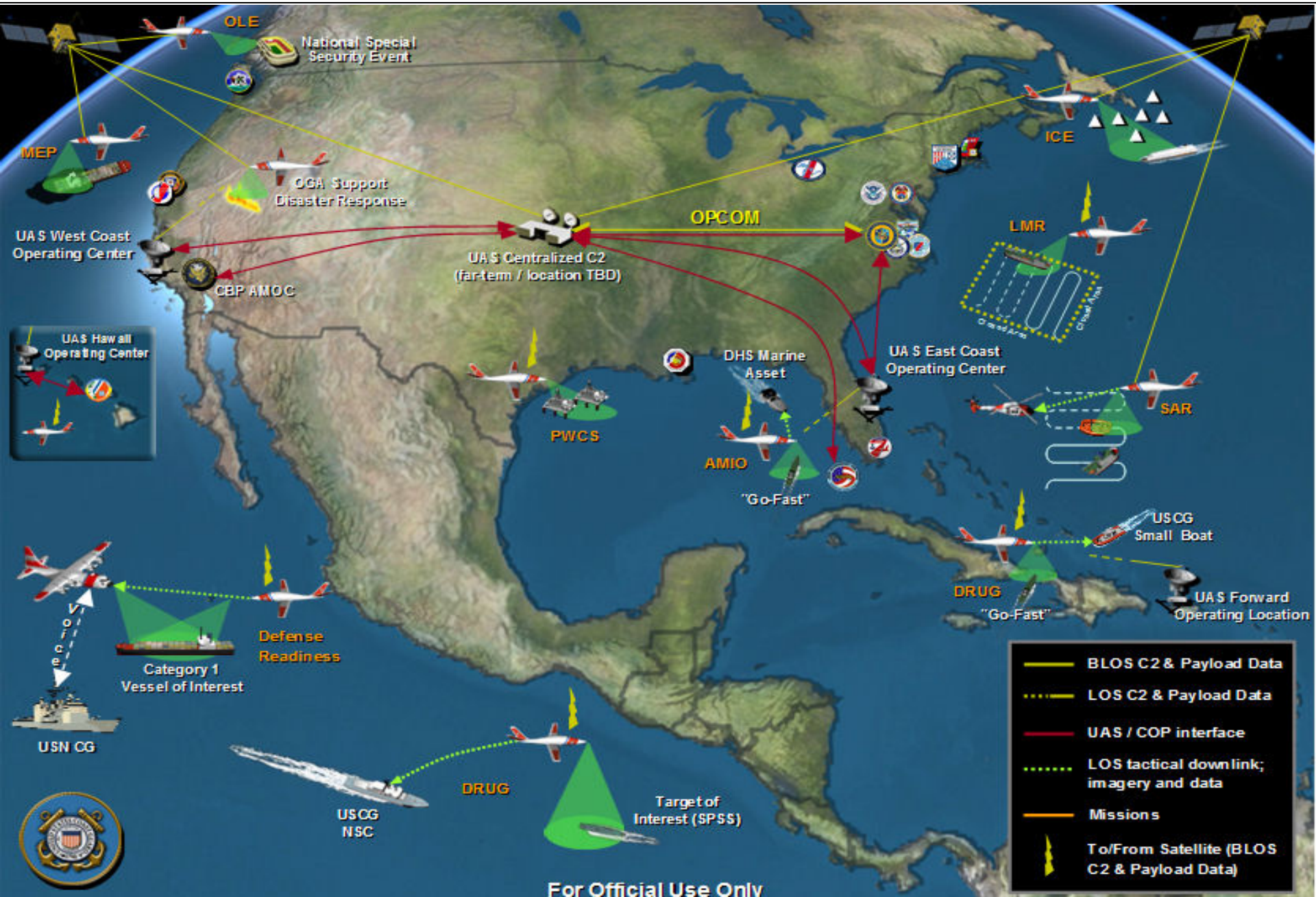
Land-Based UAS Requirement

Land-Based UAS contribution 9,200 hrs beginning in 2021.



Note 1: Hours reflect contribution of the covert, multi-sensor, surveillance aircraft (MCSA) as part of the Deepwater System. The MCSA is not part of the Deepwater acquisition, but its potential contribution to maritime domain awareness is reflected in this graph.
Note 2: UAS contributions are shown for graphic purposes using the UAS acquisition schedule from the Deepwater FY2008 Enacted Implementation Plan (2007 12 17). The UAS pre-acquisition activites/alternatives study will further inform this area.

Land-Based UAS CONOPS



Land-Based UAS CONOPS - Hawaii

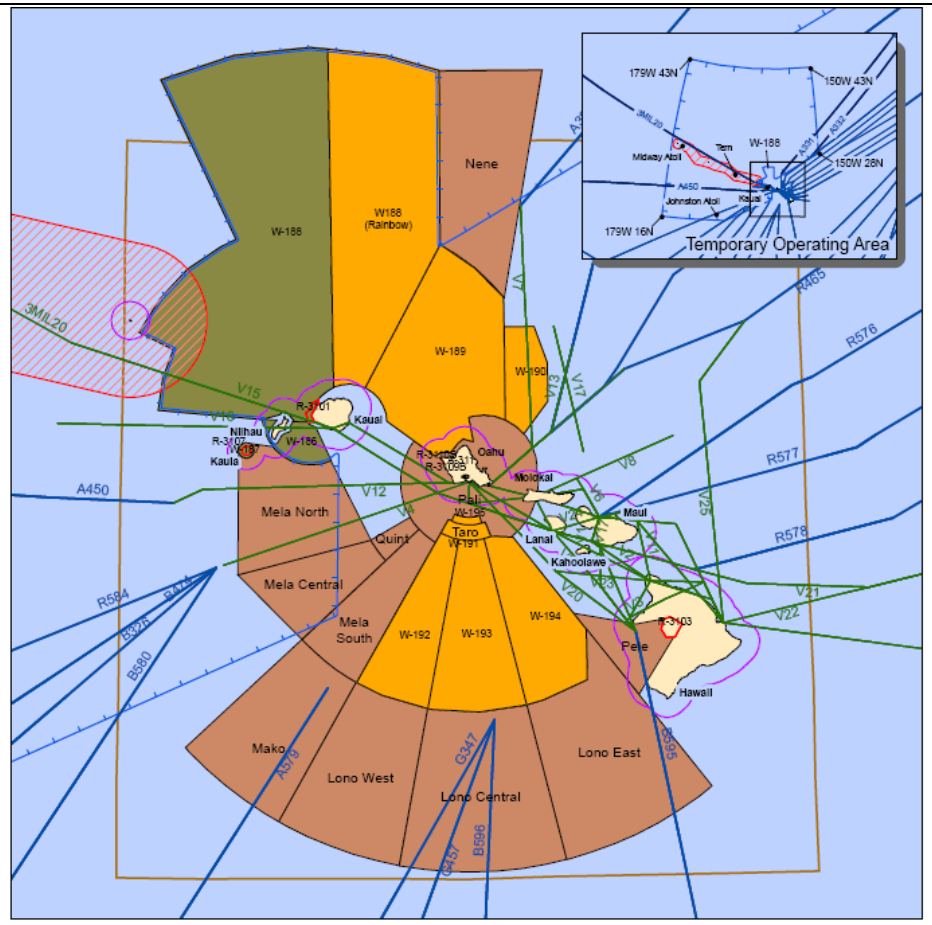
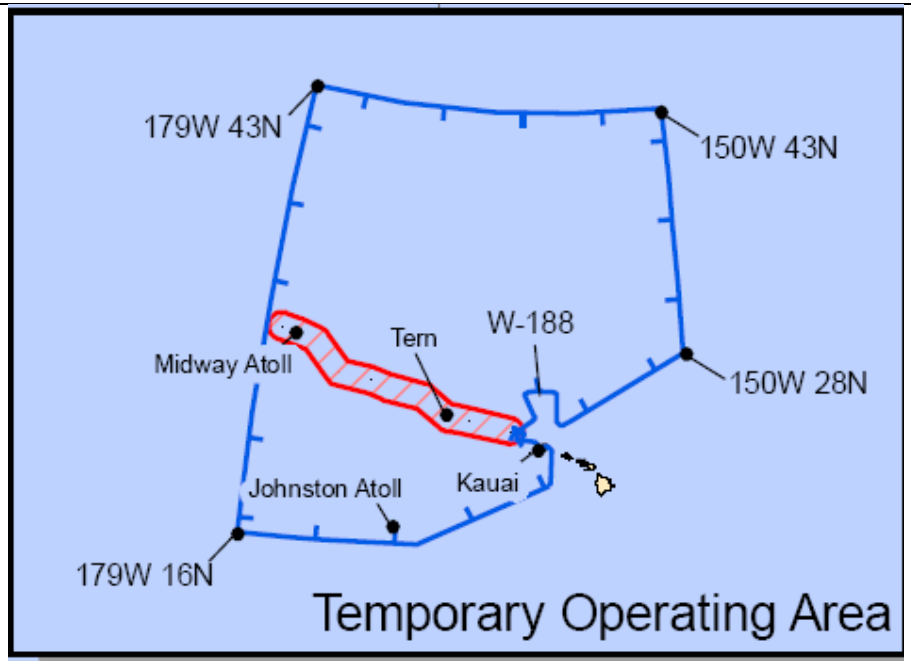


Figure 3.4.1-1



Proposed Missions

3 x 15-hour missions per week for 1-3 months:

- **-Living Marine Resources (incl PMNM)**
- **-Search and Rescue**
- **-Other Law Enforcement**
- **-Marine Environmental Protection**
- **-Defense Readiness**

Current Capabilities – MQ-9 Guardian

Length Folded	**33 ft**
Wingspan	**67 ft**
Max Gross Weight	**10,500 lbs**
Engine	**Honeywell TPE 331-10T**
Speed	**240 Knots**
Ceiling	**Up to 50,000 ft**
Flight Time	**Up to 20 hrs**
Sensors	**Raytheon SeaVue Radar (w/NAVSEA upgrade), EO/IR, AIS, 2 X ARC-210**

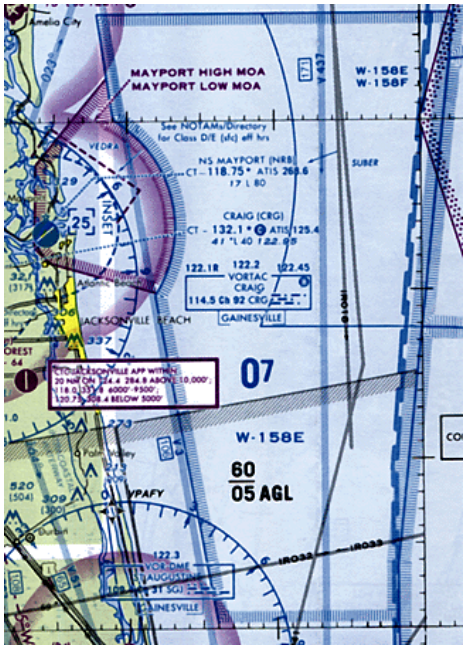
Program Challenges

-Airspace

-Facilities

-Production Lead Time

-Bandwidth



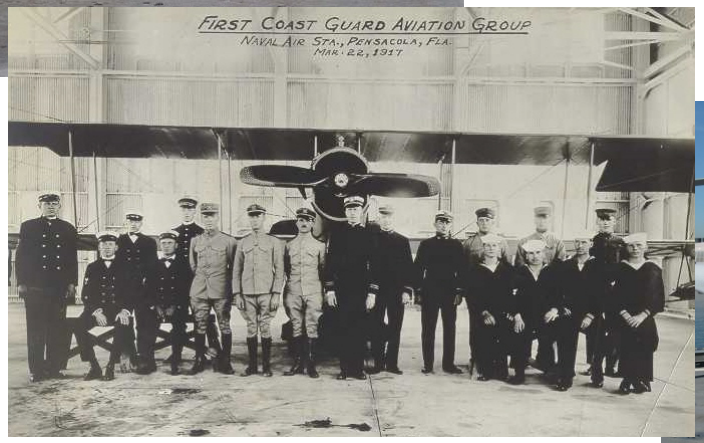
-Sensor Integration

-Data Management

Way Ahead

- **Reduce development/cost risk thru continued partnerships.**
- **Continued Experience = TTP, policy, regulations.**
- **Adhere to Major Systems Acquisition process.**
- **Complete foundation documents.**
- **UAS demo in FY11/12.**
- **Secure the $$$$!**

Questions?



The twentieth century *was* the era of *manned* aviation…

…the twenty-first century *is* the era of *unmanned* aviation.