

**Annual Aviation
Inventory and Funding Plan**

Fiscal Years (FY) 2014-2043

May 2013

Preparation of this study/report cost the
Department of Defense (DoD) a total of
Approximately \$1,064,516 in Fiscal Years
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Annual Aviation Inventory and Funding Plan

Part I – Executive Summary

Introduction

Section 231a of title 10, United States Code, as amended by section 1069 of the National Defense Authorization Act (NDAA) for Fiscal Year 2012, Public Law 112-81, requires the Secretary of Defense to submit an annual, long-term aviation plan for fixed-wing and rotary-wing aircraft, to include unmanned systems, for all Services and for combatant commanders that have aircraft assigned to them. This report responds to that requirement.

Guided by the new strategic guidance, Sustaining U.S. Global Leadership: Priorities for 21st Century Defense, and by the January 2012 Defense Budget Priorities and Choices, this plan represents the Department's commitment to a balanced force: one that is able to meet the unique demands of current conflicts, while providing the flexibility to respond to a broad spectrum of future challenges.

The FY14-18 future years defense program (FYDP) and the long-term aviation force structure and funding plans presented in this document are shaped by the following primary missions defined in the strategic guidance:

- Counter Terrorism and Irregular Warfare;
- Deter and Defeat Aggression;
- Project Power Despite Anti-Access/Area Denial Challenges;
- Counter Weapons of Mass Destruction;
- Operate Effectively in Cyberspace;
- Operate Effectively in Space;
- Maintain a Safe, Secure, and Effective Nuclear Deterrent;
- Defend the Homeland and Provide Support to Civil Authorities;
- Provide a Stabilizing Presence;
- Conduct Stability and Counterinsurgency Operations; and
- Conduct Humanitarian, Disaster Relief, and Other Operations;

Summary of the Annual Plan and Certification

This plan was developed based on the FY14 President's Budget submission and does not include the effects of sequestration / Budget Control Act funding decreases. The Department is in the process of a Strategic Choices and Management Review (SCMR) to resolve these impacts. As such, changes to this plan are probable in next year's report. Moreover, sequestration is already having an adverse effect on readiness across multiple mission areas, including aviation.

Changes in technology and organizational structure make categorizing aircraft into bins of like capability increasingly difficult. However, this aviation force structure plan provides the diverse mix of aircraft needed to carry out the eleven missions identified above. The capabilities provided by aircraft identified in this plan reflect five principal investment objectives identified below.

- Meet the demand for persistent, multirole intelligence, surveillance, and reconnaissance (ISR) capabilities;
- Provide sufficient enabler capability and capacity;
- Acquire fifth-generation fighter/attack aircraft while maintaining sufficient inventory capacity;
- Modernize long-range strike (LRS) capabilities; and
- Emphasize modernization and readiness.

The FY14-43 aviation plan is consistent with the tenets of the January 2012 Defense Strategic Guidance; it meets the national security requirements of the United States. The Department's FY14 budget request and the associated FY14-18 FYDP provide the requisite funding to implement the aviation investment plan through FY18 for all programs of record.

Annual Aviation Inventory and Funding Plan

Part II – FY 2013 Report

The report presents:

- A current year description of the aviation force structure, including active mission, training, and test aircraft.
- A detailed aviation plan for the Departments of the Air Force, Navy, Army, and United States Special Operations Command for both fixed and rotary wing assets necessary to meet the national military strategy of the United States. The plan includes legacy aircraft, aircraft in procurement or development, and aircraft projected to begin development in the next few years.
- Estimates of the annual research and development (RDT&E), procurement, operations and maintenance (O&M), military personnel (MILPERS), and military construction funding necessary to achieve the planned aviation inventory and to operate, maintain, sustain, and support this aviation inventory.

The majority of modern platforms have the ability to perform across many traditional mission sets (e.g. the surveillance and light-strike capability of the MQ-9 in uncontested environments, and the cargo and aerial refueling capability of the KC-130J Super Hercules). The multirole nature of our assets makes them adaptive, fostering mission flexibility for the joint force.

Force Structure Requirements

The Department's FY14-43 aviation plan provides the mix of forces and capabilities to meet the broad array of security challenges the nation faces. The plan represents the Department's ongoing commitment to support the joint force wherever it might be deployed and in whatever missions it is called on to perform, from the current operations in Afghanistan, to humanitarian relief efforts in various countries, to preparations for potential conflicts against adversary states. Accordingly, the aviation plan provides the aircraft needed to cover the full complement of operations that U.S. military forces could undertake in the decades ahead, and it will evolve as security needs change.

Consistent with this vision, the FY14-43 aviation plan provides the capabilities needed to meet current and projected national security objectives, while prudently balancing security risks over time and against fiscal realities. The aviation plan supports the Department's rebalance as we end the war in Afghanistan and focus on the broader range of challenges and opportunities, including the Asia Pacific region. Specifically, the plan maintains the current bomber fleet and carrier aviation fleet while divesting some mobility aircraft due to assessed excess capacity. These efforts will ensure the Department procures the right aircraft at the right time to manage risk against emerging anti-access threats. Potential adversaries are acquiring a wide range of sophisticated weapons and supporting capabilities that, in combination, could impede the deployment of U.S. forces to a conflict and blunt the operations of those forces that do deploy

forward. In planning for an uncertain future, the key consideration is ensuring that the United States possesses the aviation capability and capacity to deter conflict and, should deterrence fail, win wars.

Investment Objectives

In keeping with the Department's desire to provide a flexible and balanced force, the aviation plan provides a diverse mix of aircraft. The capabilities provided by these aircraft correspond with five principal investment objectives as follows:

- Meet the demand for persistent, multirole ISR capabilities;
- Provide sufficient enabler capability and capacity;
- Acquire fifth-generation fighter/attack aircraft while maintaining sufficient inventory capacity;
- Modernize long-range strike capabilities; and
- Emphasize modernization and readiness.

These objectives are discussed in more detail in the sections below.

- **Meet the demand for persistent, multirole intelligence, surveillance, and reconnaissance (ISR) capabilities.** The aviation plan's emphasis on long-endurance, unmanned ISR assets—many with light-strike capabilities—is a direct reflection of recent operational experience and combatant commander (CCDR) demand. The aircraft in this category—the RQ-4 Global Hawk-class, MQ-9 Reaper, MQ-1 Predator-class Remotely Piloted Aircraft (RPA) — will be effectively multiplied by capability improvements afforded by acquiring vastly improved sensors and by augmenting Air Force MQ-1s with more capable MQ-9s. The increase of Air Force MQ-1B and MQ-9 platforms will enable the establishment of 65 orbits by May 2014. Moreover, the Air Force will maintain manned ISR aircraft, such as the U-2 Dragon Lady, MC-12W Liberty Project Aircraft, and RC-135 RIVET JOINT. The Army's Aerial ISR Strategy incorporates manned and unmanned ISR systems into a scalable, adaptable force. The Army's sensors will include the traditional Signals Intelligence (SIGINT) and Full Motion Video (FMV) payloads, and also enhanced sensors, such as hyper-spectral imagery and laser radar. The Army will continue fielding MQ-1C Gray Eagle RPA and will begin fielding the Enhanced Medium Altitude Reconnaissance and Surveillance System (EMARSS) in FY15, which will replace the aging RC-12 Guardrail Common Sensor systems. The Army will retain 14 operational RC-12X Guardrail systems, modernized with enhanced capabilities, and will modernize the EO-5C Airborne Reconnaissance Low (ARL) system. The Department of the Navy is developing a comprehensive and flexible portfolio of manned and unmanned systems to meet a variety of maritime and expeditionary reconnaissance requirements, including the land-based MQ-4C Triton, carrier-based Unmanned Carrier-Launched Airborne Surveillance and Strike

(UCLASS), and MQ-8 Vertical Take-off and Landing Unmanned Aerial Vehicle (VTUAV) which was designed for Littoral Combat Ship (LCS)-Class ship operations. The Navy is developing an Airborne ISR family of systems construct to recapitalize the EP-3 and Special Projects Aircraft (SPA) Airborne Intelligence Surveillance Reconnaissance and Targeting (ISR&T) capability and capacity.

- **Provide sufficient enabler capability and capacity.** A second key priority involves investing in aviation enablers, including air mobility assets (aircraft performing airlift or aerial-refueling missions, or both), electronic warfare aircraft, and airborne early warning aircraft. Rapid Global Mobility provides the nation the agility to deploy, employ, and sustain military power anywhere in the world, at a speed and tempo that adversaries cannot match. In the near term, the Air Force will maintain a fleet of 301 strategic airlift aircraft following divestiture of six C-5A aircraft in FY2013, and will maintain a fleet of 358 intra-theater aircraft in accordance with the FY2013 NDAA. The Department is reviewing its mid and long term requirements to ensure future fleet capabilities are aligned with the strategic priorities. The DoN and USAF are modernizing their tanker and airlift inventories, which are projected to remain viable through the years covered by this plan. The Air Force plans to retire 16 KC-135R aircraft in FY14 while continuing the procurement of 128 KC-46As by FY2023 with planned procurement of 179 Aircraft by 2027. Recapitalizing the entire tanker fleet will require additional procurement beyond 2027, resulting in a future contract award. Electronic warfare aircraft deny situational awareness to opponents by jamming their radars and communications. Airborne early warning aircraft provide advance warning of approaching opponents, vector aircraft to attack opposing forces, and conduct area surveillance, intercept, search and rescue, communications relay, and strike control missions. The USAF is sustaining its fleet of airborne early warning aircraft. The Navy is recapitalizing its fleet of E-2C airborne early warning aircraft with the E-2D, carrying new, electronically-scanned radar that provides a two-generation leap in technology with the capability to detect and track emerging air and cruise missile threats in support of Integrated Air and Missile Defense. The Navy is also recapitalizing its aged fleet of P-3C maritime patrol aircraft with a modern P-8A equipped with a sensor suite that provides persistent undersea and anti-surface warfare capabilities. The Navy is also recapitalizing its electronic attack capabilities, both carrier-based and expeditionary, to a total of sixteen EA-18G squadrons. The Navy and USMC are participating in joint future vertical lift efforts to identify leverage points for future rotorcraft investment. To meet expected maritime rotary wing requirements service efforts will leverage joint investments to replace USN MH-60R/S with the MH-XX in the future. USMC continues to modernize vertical lift with procurement of AH-1Z, UH-1Y, CH-53K, and MV-22B. The modernization of rotorcraft includes current efforts to modernize the fleet of Presidential Helicopters in the VXX program. Finally, the Navy is recapitalizing inter-theater air connector inventories through identifying options for its fleet of C-2A Carrier Onboard Delivery (COD) aircraft.
- **Acquire fifth-generation fighter/attack aircraft while maintaining sufficient inventory capacity.** Legacy fighter/attack aircraft are important today, as evidenced by their involvement in ongoing operations in Afghanistan. However, the capability limitations of 4th generation aircraft against adversaries employing A2/AD threats make them less survivable in the future, hence the Department's emphasis on fifth generation capabilities.

The F-35 will account for the bulk of the DoD's fifth generation inventory. This aviation plan reflects revised planning for the F-35 and incorporates the Department's latest estimates to fund the additional system development and demonstration needed to complete design and testing as well as reduce the risk of procuring aircraft too early in their design. It also captures the extensive modernization of the F/A-18 E/F and EA-18G fleet. Finally, this plan also includes RDT&E on future Air Force fighters and Navy replacement of the F/A-18E/F (F-X and FA-XX). The Department is continuing to evaluate projected threats and the alternative means for defeating those threats. It is anticipated that a family of systems-mixes of manned and unmanned aircraft, with varying stealth characteristics, and advanced standoff weapons—will shape the future fighter/attack inventory. These tradeoffs are constantly re-evaluated and will affect subsequent aviation plans.

- **Modernize long-range strike capabilities.** The enduring need for long-range attack capabilities will be met by a combination of current and future aircraft and weapons systems. The current fleet of Air Force bombers continues to be modernized so that it can retain long range strike capabilities through the 2030s. To deter and defeat A2/AD threats, DoD is creating a long-range strike family of systems, including a program to develop a new penetrating, nuclear capable bomber. The current goal is to achieve an initial capability in the mid-2020s, and to hold down the unit cost to ensure sufficient production (80 to 100 aircraft) and a sustainable bomber inventory over the long term.
- **Emphasize modernization and readiness.** The FY14 President's Budget continues emphasis on modernization and readiness, while adjusting to fiscal uncertainty and actions to comply with the FY13 (NDAA). This plan reflects the difficult decisions made to remain aligned with Defense Strategic Guidance priorities while meeting budgetary goals; for example, divesting three combat-coded A-10 squadrons and one combat-coded F-16 squadron in FY13 to resource future modernization and readiness. Similar adjustments will retire older, limited role tactical aircraft while upgrading and extending the service life of newer F-16 aircraft and continuing modernization of the F-22.

Aircraft Investment Plan

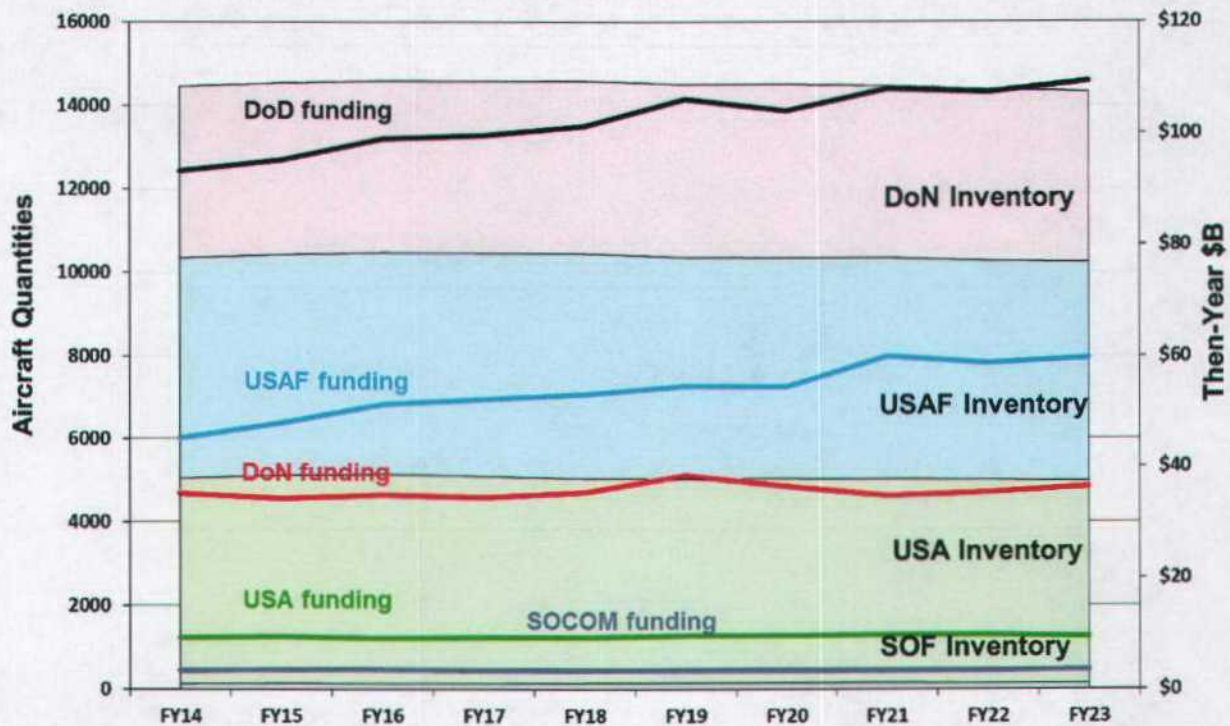
Force-Wide Perspective. The Department's aviation inventory, broken out by category, is shown in the table below for each fiscal year through FY23. Total aviation force levels will be relatively constant across the period. Inventory levels are subject to change in response to operational needs, industrial base considerations, and fiscal constraints.

Aviation Inventory FY 2014-2023

Inventory	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Fighter / Attack	3407	3422	3410	3389	3395	3352	3325	3346	3351	3375
Attack Helicopter	858	870	881	885	830	850	852	889	895	901
Airlift / Cargo / Utility	4457	4479	4501	4461	4456	4375	4373	4349	4338	4291
Combat Search and Rescue	148	160	167	175	183	149	149	149	149	149
Air Refueling	540	537	543	554	562	554	545	544	545	545
Long Range Strike	158	157	156	156	156	159	159	159	159	159
Anti-Surface/Submarine Warfare	645	635	650	651	675	677	676	650	661	659
Trainers	2441	2405	2380	2374	2367	2367	2366	2334	2283	2249
ISR / Scout / C4	1672	1727	1763	1794	1818	1864	1903	1882	1848	1848
Special Operations Forces	450	462	465	471	470	469	469	471	466	469
Total	14776	14854	14916	14910	14912	14816	14817	14773	14695	14645

The aviation plan is fiscally prudent. As shown in the chart below, annual funding levels will peak at more than \$100 billion in FY23. All funding is in then-year dollars. The funding projections encompass RDT&E, procurement, operations & maintenance, military personnel, and military construction. In the chart below, and numerous subsequent charts, funding is shown as colored lines, while inventory takes the form of a sand chart.

DoD Aviation Inventories & Funding FY 2014-2023



Fighter/Attack Aircraft

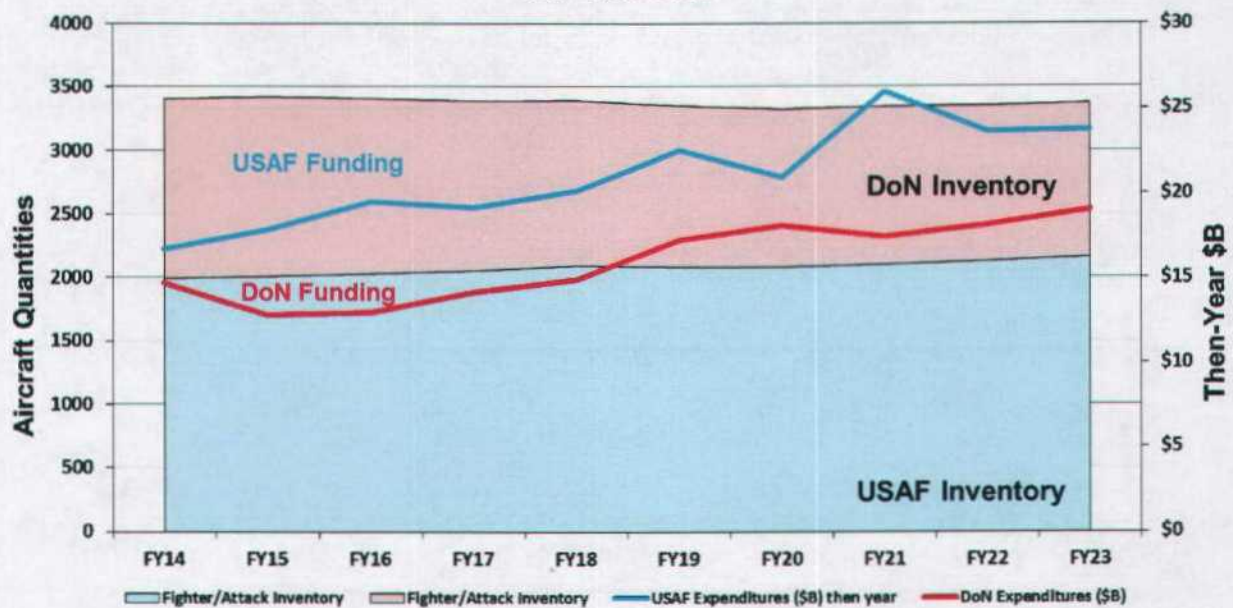
The following tables show Fighter/Attack aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Departments.

Fighter/Attack	Air Force	DoN
	A-10, F-15C/D, F-15E, F-16, F-22, F-35, F-X	AV-8, EA-18, EA-6B, F-16, F-5, F-35B/C, FA-18, FA-XX

2013 Fighter/Attack Aircraft Inventory

Category	Inventory	
	Air Force	DoN
Total Aircraft	1972	1398
Mission	1098	657
Training	478	272
RDT&E	108	58
Backup, Attrition Reserve, and Other Primary aircraft	288	411
Active Component	1294	1315
Reserve Component	678	83

2013 Fighter/Attack Inventories & Funding FY 2014-2023



The above chart depicts annual fighter/attack aircraft inventory and funding projections over FY14 – 2023 broken out by military department. Details on Air Force and DoN fighter/attack aviation plans are outlined in the following paragraphs.

Department of the Air Force. The Air Force will retain and maintain the capability and capacity to meet the demands of the new DoD strategic guidance. In the next ten years, the Air Force will continue to modernize the F-22 to address advances in threat systems and technologies to ensure the F-22 remains fully effective against the most challenging air-to-air and surface-to-air threats. The Air Force will procure 201 JSF from FY14 to FY18. In the meantime, the Air Force will invest in a “capability bridge” between legacy fighter platforms and the F-35 to mitigate program delays and to protect capability through legacy fighter modernization and preferred munitions. For instance, the Air Force plans to conduct a service life extension program (SLEP) and capability upgrade for approximately 300 F-16 Block 40-52 aircraft beginning in FY 2017 to maintain the best fighter inventory allowed by fiscal constraints. Future research and development efforts beyond the FYDP will focus on improvements to 5th generation aircraft and initial RDT&E on 6th-generation capabilities (i.e., 2030+ Air Dominance).

Department of the Navy. The DoN has maintained the F-35 production ramp with procurement reaching 40 F-35B/C’s per year in FY18 as the Department actively pursues F-35 affordability initiatives via USD(AT&L)/PEO(JSF) Will-Cost/Should-Cost strategies. The DoN has continued to pursue strike fighter management initiatives through supply and service-life management programs to extend the life of its legacy aircraft, including F/A-18 A-D Service Life Extension Program (SLEP), F/A-18 E/F Service Life Assessment Program (SLAP) and improved AV-8B readiness with the use of GR9 spare parts bought from the United Kingdom. F/A-18 E/F SLAP recently progressed to the third of three phases and continued to enhance the roadmap for follow-on SLEP efforts to ensure F/A-18 E/F will provide strike/fighter capacity and capability to 9,000 hours of service life.

As the F-35 ramps to achieve steady procurement, it is necessary to take additional measures to ensure continued TACAIR capacity and capability for the operational fleet. The Department of the Navy is addressing the delays with several management and investment measures: adding to the service life of our legacy strike fighter aircraft (F/A-18A-D) through SLEP of approximately 150 aircraft to 10,000 hours and accelerating the transition of seven legacy USN F/A-18C squadrons to F/A-18 E/F Super Hornets utilizing attrition aircraft. Continued reduction in utilization rates of F/A-18 E/F aircraft due to Service Life Management Program efforts (DoN provided guidance for Super Hornet flight profiles) and extension of these aircraft to 9,000 hours (from 6,000) through SLAP/SLEP planning and execution continue to maintain the strike fighter shortfall at a manageable number.

The Navy will end procurement of the F/A-18E/F Super Hornet in FY13. The Super Hornet provides a significant increase in combat radius, endurance, and capability over the legacy F/A-18A-D fleet. Despite the end of the procurement cycle, continuous modernization and sustainment of all models of F/A-18 and AV-8B aircraft are critical to maintain relevant capability and capacity of strike fighters through 2030.

Procurement of the EA-18G Growler ends in FY14, with deliveries in 2016 completing the Navy's inventory objective. Though it is an electronic warfare platform, the EA-18G has parts and manufacturing commonality with the F/A-18E/F, so it is included in the fighter category. This is an example of the multi-role airframe meeting multiple mission requirements and generating savings across the lifecycle of the platform due to commonality of parts, personnel, and support equipment.

The EA-18G is already in service, having provided jamming against communication networks and radars in Operation Odyssey Dawn, Enduring Freedom and New Dawn. As USMC begins to sundown its fleet of four EA-6B squadrons (completed by the end of FY19), the Navy will stand-up two additional expeditionary squadrons bringing its total to 16. The transition/ stand up of 10 CVW squadrons, five expeditionary squadrons, and one reserve squadron will be complete by 2017. The 10 carrier-based EA-18G squadrons will fulfill the USN requirements for airborne electronic attack. The Navy will maintain 5 expeditionary and one reserve EA-18G squadrons in order to meet Joint Force Commander requirements. Future capability analyses will determine the optimal platform to begin EA-18G replacement in 2032.

In the long term, the Navy will need to replace its F/A-18E/F fleet. The Navy is conducting analyses to inform a decision on a follow-on system with FA-XX, which may be manned, unmanned, or manned optional with advanced propulsion technologies. A Defense Advanced Research Projects Agency study is underway in support of F/A-18E/F follow-on and USAF future requirements.

Attack Helicopter

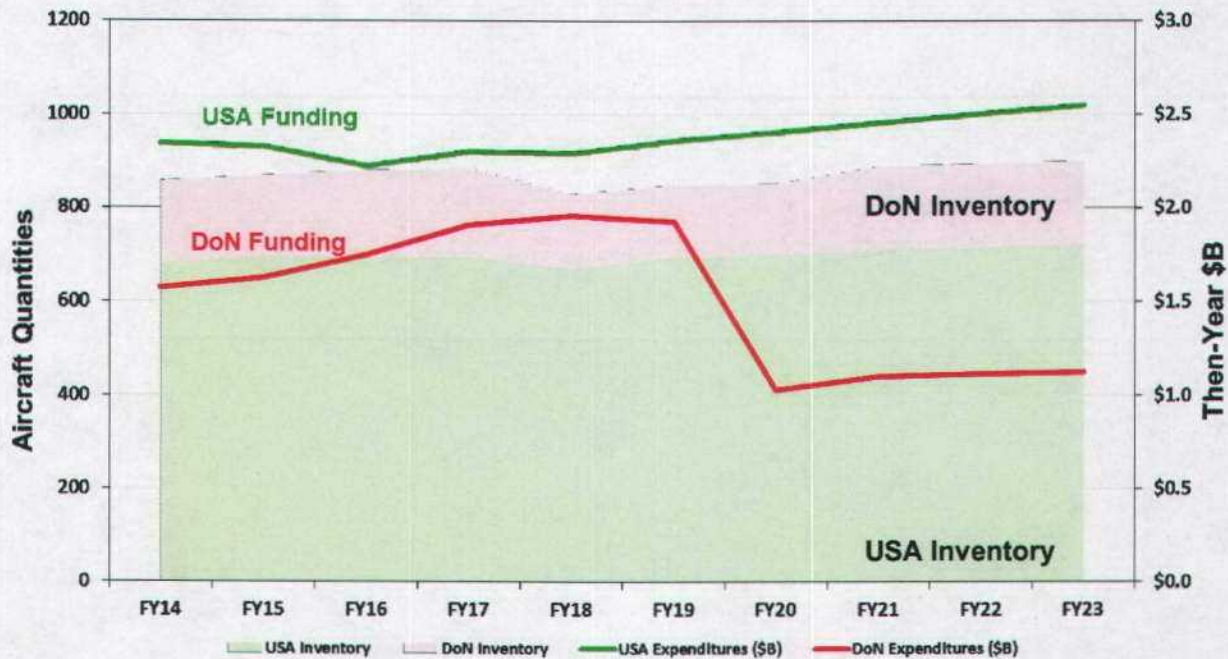
The following tables show the DoD Attack Helicopter aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Departments.

Attack Helicopter	Army	DoN
	AH-64	AH-1

2013 Attack Helicopter Inventory

Category	Inventory	
	Army	DoN
Total Aircraft	737	156
Mission	632	105
Training	91	21
RDT&E	14	7
Backup, Attrition Reserve, and Other Primary aircraft	0	23
Active Component	497	144
Reserve Component	240	12

Attack Helicopter Inventories & Funding FY 2014-2023



The above chart depicts annual attack helicopter inventory and funding projections over FY14 – 2023 broken out by military department. Details on Army and DoN attack helicopter plans are outlined in the following paragraphs.

Department of the Army. The Army is fielding the AH-64E which is a modernized variant of the AH-64D, Longbow Apache. The AH-64E will sustain the fleet for 20 or more additional years by introducing new or remanufactured airframes and will increase the aircraft's overall capabilities. As the Army procures the AH-64E it will also make incremental improvements to the existing fleet of AH-64D. This will ensure that the Apache remains a viable combat helicopter beyond 2040.

Department of the Navy. The H-1 program includes both the Marine Corps attack and utility helicopters (the AH-1Z and UH-1Y respectively). Eighty-five percent of the major components are identical, enhancing deployability and maintainability while reducing training requirements and logistical footprint. In the near term, production will begin the AH-1Z "Build New" configuration, which will end the remanufacture process of the AH-1W and aid in the recovery from the significant attack helicopter shortfall.

Airlift / Cargo / Utility

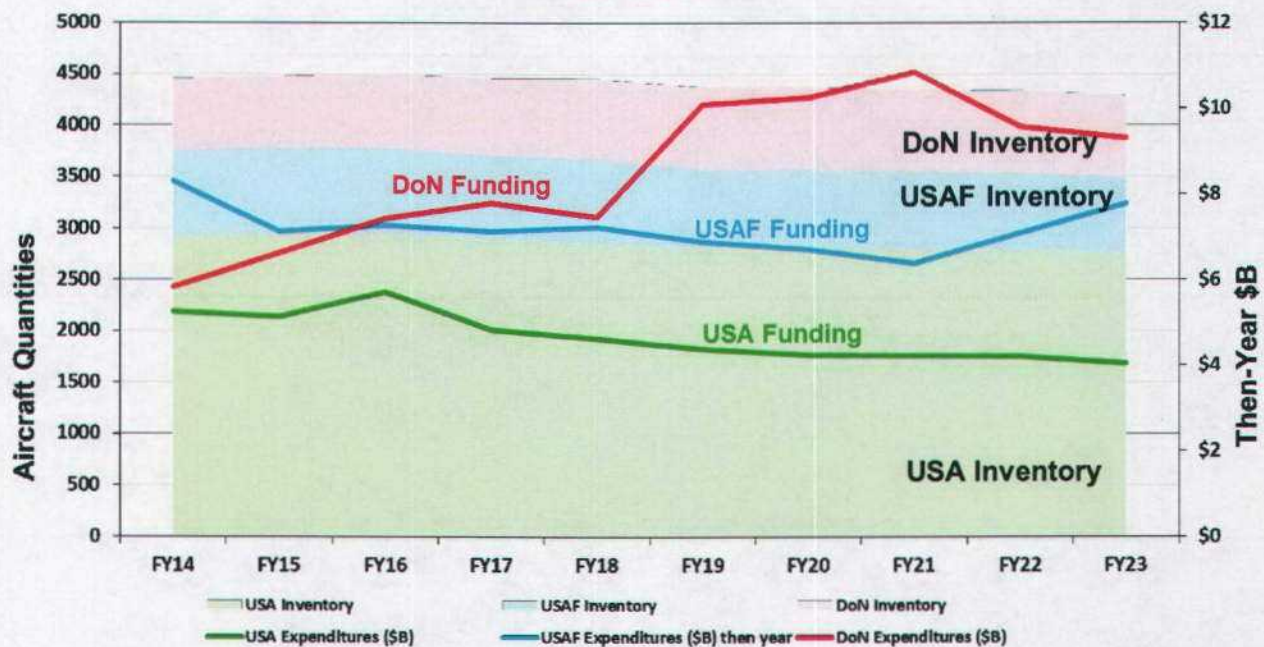
The following tables show DoD Airlift / Cargo / Utility aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Departments. This category includes Operational Support Airlift, Tilt Rotor assets, Helicopters, and fixed-wing airlift to include Intra-theater and Inter-theater airlift.

	Army	Air Force	DoN
Airlift / Cargo / Utility	CH-47, UH-60, LUH-72, C-12, C-23, C-26, C-31, C-37, C-20, CE-182, C-20B, O-2A, T-34, TG-14, U-21, UV-18, UV-20, UC-35, T-6	UH-1, C-130, C-17, C-5, WC-130, C-12, C-20, C-21, C-32, C-37, C-38, C-40, VC-25	CH/MH-53, CH-46, C-130, C-20, C-26, C-2, C-37, C-40, C-9, UC-12, UC-35, MV-22, VH-3, TH/VH-3, TH/VH-60, VXX, UH-1, C-2RPL

2013 Airlift / Cargo / Utility Inventory

Category	Inventory		
	Army	Air Force	DoN
Total Aircraft	3030	805	688
Mission	2647	620	478
Training	259	47	77
RDT&E	53	30	22
Backup, Attrition Reserve, and Other Primary aircraft	71	108	111
Active Component	1627	437	596
Reserve Component	1403	368	92

2013 Airlift / Cargo / Utility Inventories & Funding FY 2014-2023



The above chart depicts annual Airlift / Cargo / Utility aviation inventory and funding projections over FY14 –23 broken out by military department. Details on Army, Air Force, and DoN Airlift / Cargo / Utility aviation plans are outlined in the following paragraphs.

Department of the Army. The bulk of Army Aviation assets reside in the Army's utility and cargo aviation fleets. The Army is fielding modernized variants of existing utility and cargo aircraft (UH-60M and CH-47F) that will sustain the fleet by introducing new or remanufactured airframes while increasing the aircraft's overall capabilities. These new and remanufactured aircraft should be viable for 20 or more additional years of service. The Army will modernize its utility and cargo helicopter fleets by divesting selected legacy aircraft (UH-1, CH-47D, and UH-60A variants), which have reached the end of their useable lives. The Army will deliver a portion of the legacy airframes to industry for remanufacture rather than divesting them, to reduce the cost of new airframes. While the Army is upgrading its four main fleets of tactical rotary wing aircraft, the Army is simultaneously fielding the last of the Light Utility Helicopter or UH-72A, which is limited to conducting supporting operations – mainly aerial medical evacuation and light utility missions – in permissive environments (such as Homeland Defense). Additionally, the Army is fielding a limited number of fixed wing support aircraft and is developing plans to replace the C-12 with a similar type aircraft in 2018 and later as the C-12 is nearing the end of its useable life.

The Army's current modernization efforts are largely focused on sustaining and improving the current generation of aircraft through 2022 and beyond. However, by that time, the first of these modernized rotary wing aircraft will have begun to reach the end of their useful lives. The lifespan of these aircraft may be further accelerated by accumulated heavy use over the past 12 years in combat and potential continuation of the ongoing overseas contingency operations. As a result, the Army foresees the following:

- UH/HH-60: The final UH/HH-60 fleet will consist of 1375 UH/HH-60Ms and 760 UH-60Ls. The UH/HH60Ms will complete procurement by 2032 and will be UH-60M and L model pure by 2026. To extend the life of the L model it will undergo an "L to L" RECAP starting in FY16 and a "digitization" effort in conjunction with RECAP in FY18. The RECAP and digitization will help to address network interoperability, cockpit management/situational awareness, and obsolescence issues with the UH-60L. These efforts will continue for the next 20 years with 48 UH-60L undergoing RECAP and or digitization per year. The M model will start reaching its 20 year life at 2027 and will then undergo a RECAP in FY25 to extend its life beyond FY40.

- CH-47: CH-47F procurement will be complete after FY18. Consequently, the Army will evaluate a CH-47F Original Equipment Manufacturer (OEM)/depot level modernization and recapitalization program, for FY19 and beyond, to extend the CH-47F's service life beyond FY40.

- Utility/OSA Fixed Wing: Utility Fixed Wing consists of all Army Operational Support Airlift aircraft as well as the Army's training fleet, research and development fleet and special mission aircraft. This fleet consists of older aircraft that will need replacement sometime

between FY20-30. The special mission aircraft and R&D aircraft will be validated and replaced on a one for one basis FY22 and beyond.

- UH-72: This is the newest fleet and will complete procurement in FY14. This capability will be sustained through FY35. A replacement capability may be procured beyond FY35 should requirements and sustainability of this system require an upgraded capability.

Department of the Air Force. The Air Force continues to focus on balancing aircraft recapitalization with key modernization and sustainment across the airlift fleet. Through FY14, the Air Force will retain a fleet of 358 C-130 aircraft, complying with direction in the FY13 NDAA. In the near term, the Air Force will continue procurement of the versatile C-130J Hercules, which is capable of performing intra-theater lift missions in austere locations. The C-130 fleet is fully capable of meeting time-sensitive, mission-critical direct airlift support and Homeland Defense requirements. Additionally, to ensure compatibility with worldwide Communication, Navigation, Surveillance (CNS)/Air Traffic Management (ATM) standards, the Air Force plans to update the legacy C-130 fleet to ensure continued compliance with international airspace mandates.

Air Force inter-theater airlift, whether transporting humanitarian-relief supplies or wartime materiel, is unrivaled in its ability to project American forces and power around the world. In combination with commercial aircraft available for airlift missions, the Air Force's inter-theater airlift aircraft—the C-17 Globemaster III and C-5 Galaxy—form the foundation of the Nation's strategic mobility and global sustainment capabilities. The Air Force will retain a fleet of 301 strategic airlifters in accordance with FY13 NDAA, while the Department reviews its future airlift requirements. Fleet upgrades remain the most cost-effective means of sustaining these capabilities through FY40.

With cancellation of the Common Vertical Lift Support Platform (CVLSP) program, the Air Force will continue to fly the UH-1N. The Air Force operates 62 UH-1N helicopters at six major commands. The majority of the Air Force UH-1N fleet is focused on critical national security missions: nuclear asset security for Air Force Global Strike Command and National Capital Region mission support. Anticipating that the Air Force will fly the UH-1N for the foreseeable future, the Department will selectively modernize the UH-1N to minimize existing capability gaps and avoid increased sustainment costs brought on by obsolescence.

Finally, Operational Support Airlift/Executive Airlift (OSA/EA) delivers highly responsive and reliable executive airlift to senior US civil and military officials and foreign dignitaries as well as high-priority cargo with time, place or mission sensitive requirements. Special communications equipment allows these passengers to conduct highly sensitive business en route, even globally, without compromising their efficiency or effectiveness. To maintain critical support of the President into the future, the Air Force plans to begin recapitalizing the VC-25 with a modified commercial aircraft. Current plans support a procurement schedule that would allow modification to begin in 2019 and an initial operational capability in 2023.

Department of the Navy. Over the next ten years, the Navy and Marine Corps will procure KC-130J and C-40 lift aircraft to meet Navy unique intra-theater logistics support and Marine Air Ground Task Force (MAGTF) direct support requirements. These aircraft respond to immediate demands for movement of essential fleet personnel and cargo to mobile sea-based forces worldwide. The KC-130J is a multi-role platform, serving as airlift asset; however for the categorization of this report, the KC-130J inventory numbers are included in the aerial refueling category.

The C-2A fleet, which provides long-range logistical support to carrier strike groups, will reach the end of its service life in the mid 2020s with sustainment investment. COD operations past the mid 2020s will require recapitalization. The sundown of the MH-53E aircraft which supports the mine countermeasures (MCM) mission is dependent upon the Littoral Combat Ship MCM Mission Package reaching full operational capability (forecast to begin in 2024). Ongoing studies will determine the best option to recapitalize capabilities provided by the C-2 and MH-53E in a program currently referred to as Airborne Resupply/Logistics for the Sea Base. C-40A aircraft, being procured in the near term, will begin reaching the end of their service lives prior to 2041 and will need to be replaced.

The MV-22B Osprey provides the MAGTF Commander medium lift assault support. The tiltrotor capability provides an unprecedented advantage to warfighters, allowing current missions to be executed more effectively, and new missions to be accomplished that were previously unachievable using legacy platforms.

MH-60 R/S multi-mission combat helicopters are the pillars of the naval helicopter concept of operations for the 21st century. These two variants share 85 percent commonality to facilitate maintenance and logistics support. While a multi-mission aircraft, the MH-60R is the only organic anti-submarine warfare asset within a strike group and is critical to ensuring access to the global commons. MH-60R procurement remains steady with a total buy of 280 aircraft. The MH-60S is a multi-mission aircraft that conducts anti-surface warfare, combat search and rescue, mine countermeasures, and logistics support among many other missions.

The CH-53K will achieve initial operating capability in FY19, and begin incrementally replacing the aging CH-53Es. The new CH-53K represents heavy-lift capabilities not possessed by any of today's DoD platforms. Maintainability and reliability enhancements of the CH-53K will significantly decrease recurring operating costs, and greatly improve aircraft efficiency and operational effectiveness.

MH-XX represents a replacement for multiple rotary-wing craft that will retire in the 2020's. MH-XX will leverage Joint and US Army rotorcraft development while meeting maritime mission requirements and operating constraints. The MH-XX will maintain maximum commonality with US Army rotorcraft for cost savings while meeting diverse maritime requirements and constraints. Navy participation in the Joint Vertical Lift studies will help support MH-XX which will recapitalize MH-60, HH-60, and MH-53 capabilities.

The VXX represents the replacement aircraft under development for the 39-year old VH-3D and the 25-year old VH-60N helicopters, currently providing transportation for the President of the

United States, foreign heads of states, and other dignitaries as directed by the White House Military Office. The Replacement Presidential Helicopter will provide a hardened, mobile command and control transportation capability necessary to meet current and future presidential transport mission requirements. The VXX will begin operating in the 2020 timeframe.

Combat Search and Rescue

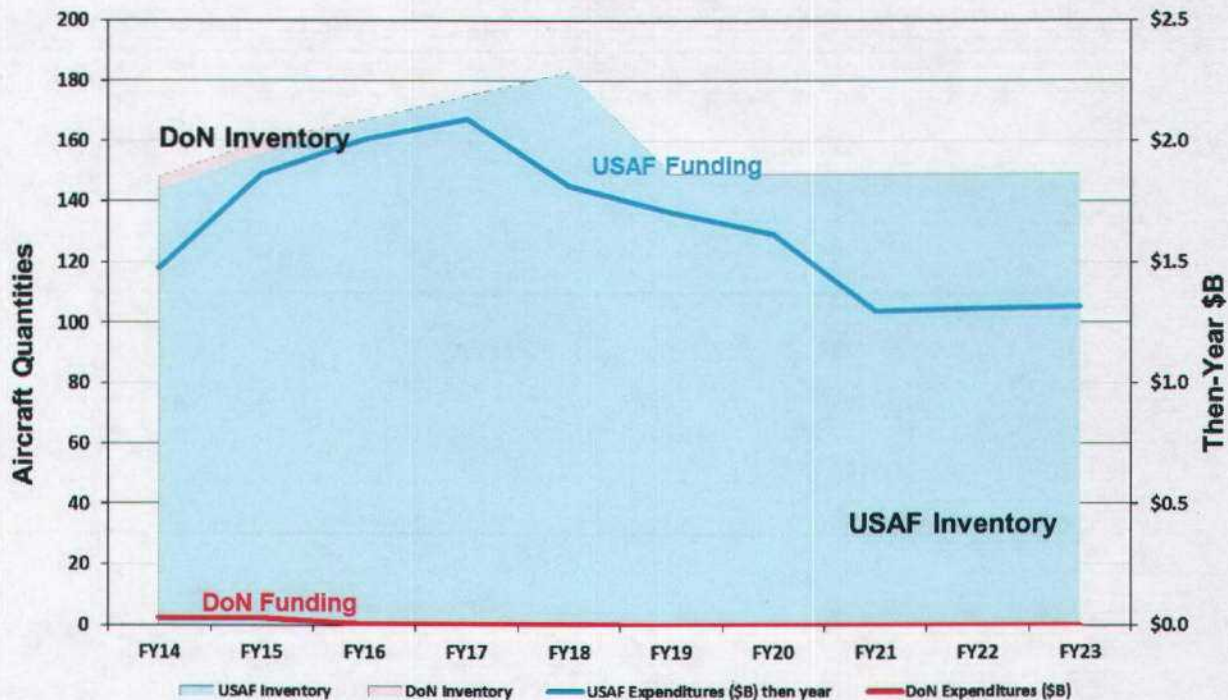
The following tables show the DoD combat search and rescue aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Military Departments.

Combat Search and Rescue	Air Force	DoN
	HC-130P/N/J, HH-60	HH-1, HH-46

2013 Combat Search and Rescue Inventory

Category	Inventory	
	Air Force	DoN
Total Aircraft	139	18
Mission	102	15
Training	19	1
RDT&E	5	0
Backup, Attrition Reserve, and Other Primary aircraft	13	2
Active Component	92	18
Reserve Component	47	0

Combat Search and Rescue Inventories & Funding FY 2014-2023



The above chart depicts annual dedicated combat search and rescue aviation inventory and funding projections over FY14 – 23 broken out by military department; almost all forces and expenditures reside in the Air Force. Details on Air Force and DoN combat search and rescue aviation plans are outlined in the following paragraphs.

Department of the Air Force. For FY14, the Air Force continued its progress towards recapitalizing legacy HC-130P/N aircraft with 37 HC-130Js. In April 2011, the Air Force reached an acquisition decision on recapitalizing the legacy HH-60G and subsequently introduced a “full and open competition” approach that will replace the Personnel Recovery rotary wing fleet with the Combat Rescue Helicopter. Research and development funding for these efforts will peak in FY15.

Department of the Navy. The Navy inventory includes the USMC HH-1N and HH-46E. As these assets reach the end of their service life, the search and rescue mission will be fulfilled by DoN multi-mission aircraft, including USMC UH-1Y and MV-22B and USN MH-60S.

Air Refueling

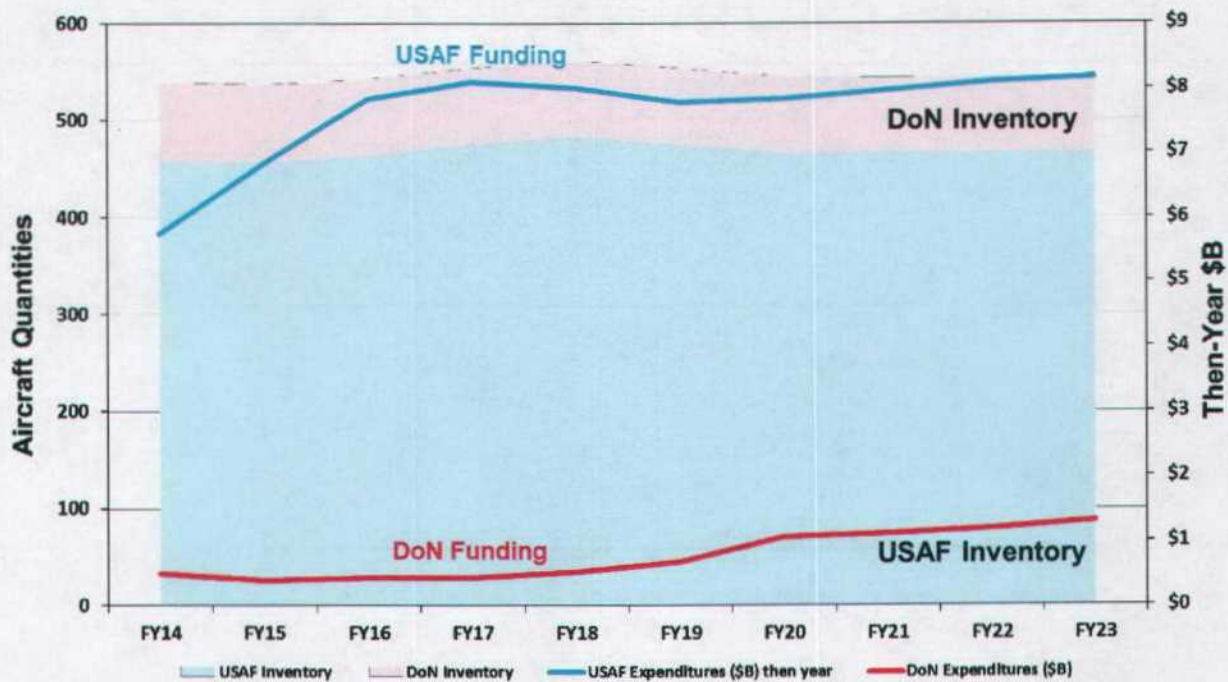
The following tables show the DoD Air Refueling aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Departments.

Air Refueling	Air Force	DoN
	KC-10, KC-135, KC-46	KC-130

2013 Air Refueling Aviation Inventory

Category	Inventory	
	Air Force	DoN
Total Aircraft	456	80
Mission	407	66
Training	19	0
RDT&E	2	7
Backup, Attrition Reserve, and Other Primary aircraft	28	7
Active Component	218	52
Reserve Component	238	28

Air Refueling Aviation Inventories & Funding FY 14-2023



The above chart depicts air refueling aviation inventory and funding projections over FY14 –23 broken out by military department. Details on Air Force and DoN Air Refueling aviation plans are outlined in the following paragraphs.

Department of the Air Force. As the DoD places greater emphasis on operations in other theaters like the Asia-Pacific theater, Air Force refueling aircraft continue their vital, daily role of extending the range and persistence of almost all other aircraft of the Joint force. The Air

Force remains committed to fully funding the acquisition of the new KC-46 tanker, while also resourcing critical modernization programs for the legacy KC-10 and KC-135 fleets, assuring crucial air refueling capacity and capability in this plan.

The Air Force has begun recapitalizing its aging tanker fleet with fully funded plans to develop and procure 128 KC-46A tankers by 2023 with the full program providing a total of 179 KC-46As by 2027. The new KC-46A will provide greater operational capability and flexibility than the legacy KC-135s. In addition to being capable of refueling both receptacle and probe-equipped receivers on the same sortie, the KC-46A will be able to receive fuel from other tankers in flight, allowing for continuous and flexible fuel management over the battlespace. Additionally, the KC-46A will have three times the cargo and passenger capability as the KC-135. Recapitalizing the entire tanker fleet will require additional procurement beyond 2027.

Department of the Navy. The Marine Corps will continue procuring the KC-130J in the near term, expanding its inventory of this aircraft, which has proven its combat effectiveness and reliability in both Iraq and Afghanistan. Capable of employment in intratheater lift, assault support, persistent ISR, offensive air support, and aerial refueling missions, the KC-130J will replace aging KC-130T models.

The Super Hornet fills the critical organic tanking missions for carrier air wings. Although the F/A-18E/F performs this mission, it is categorized as a fighter aircraft and included in those inventory numbers. The Navy will incorporate carrier based organic tanking capability requirements into future aircraft studies to include the possibility of recapitalization studies on C-2A, existing strike fighters, and future manned or unmanned aircraft.

Long-Range Strike

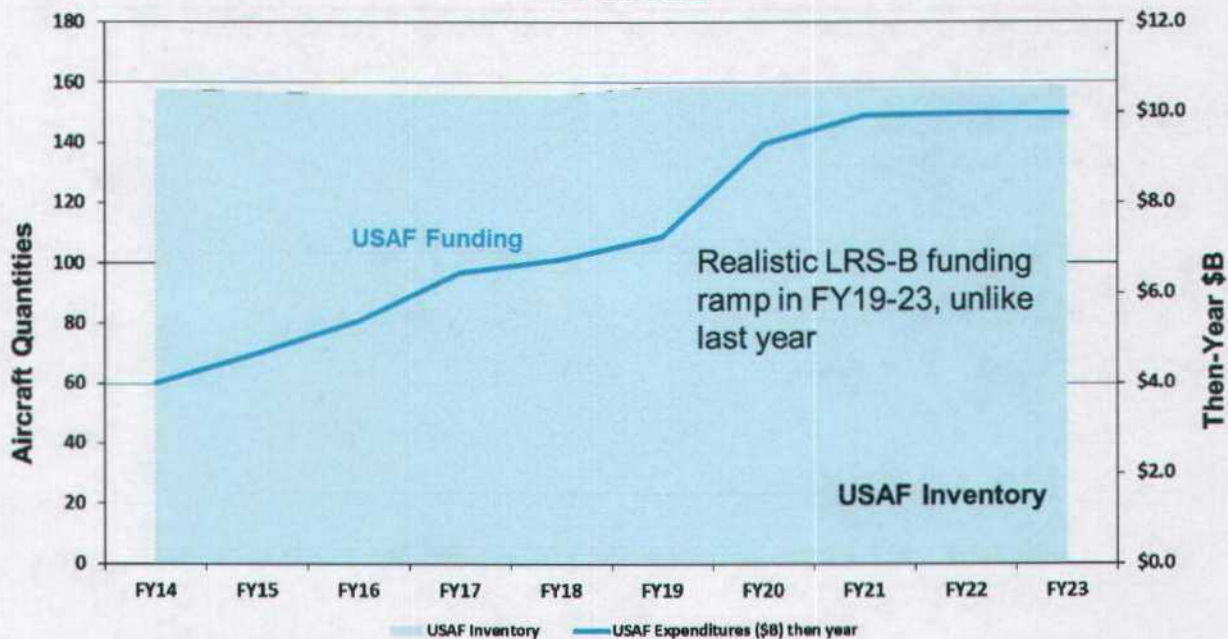
The following tables show the DoD Long-Range Strike aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Military Departments.

Long Range Strike	Air Force
	B-1, B-2, B-52, LRS-B

2013 Long Range Strike Aviation Inventory

Category	Inventory	
	Air Force	
Total Aircraft		159
Mission		96
Training		29
RDT&E		7
Backup, Attrition Reserve, and Other Primary aircraft		27
Active Component		141
Reserve Component		18

Long Range Strike Inventories & Funding FY 2014-2023



The above chart depicts annual long-range strike aircraft inventory and funding projections over FY14–23. The inventory level in the chart contains no allowance for possible attrition. Details on Air Force long-range strike plans are outlined in the following paragraphs.

Department of the Air Force. The FY12 PB initiated development of the Long-Range Strike Bomber (LRS-B), a key component of the LRS Family of Systems. The Air Force plans to continue funding for the LRS-B. The current goal is to achieve an initial capability in the mid-2020s, and to hold down the unit cost to ensure sufficient production (80 to 100 aircraft) and a sustainable bomber inventory over the far-term. This report includes estimated annual funding for LRS-B in the five years beyond the FYDP. Meanwhile, the Department will invest in

upgrades to the B-2 bomber to enhance its effectiveness and survivability as well as modernize the B-52 fleet with machine-to-machine retargeting, beyond line of sight communications capability, and an increased weapons carriage capacity. The Air Force also continues to modernize and maintain 36 combat-coded B-1 aircraft and to address sustainability issues for ensuring the overall health and continued viability of the B-1 fleet.

Anti-Surface/Submarine Warfare

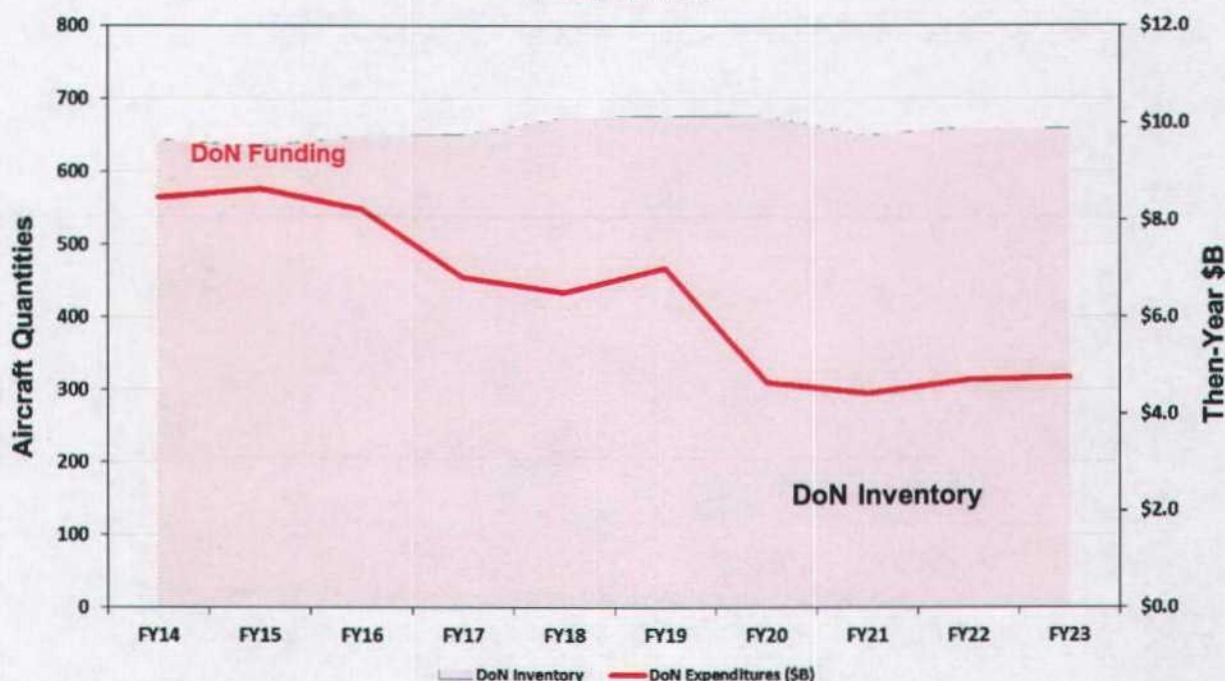
The following tables show the DoD Anti-Surface/Submarine Warfare aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Military Departments.

Anti-Surface/Submarine Warfare	DoN
	P-3, P-8, MH/SH-60

2013 Anti-Surface/Submarine Warfare Aviation Inventory

Category	Inventory
	DoN
Total Aircraft	617
Mission	347
Training	102
RDT&E	29
Backup, Attrition Reserve, and Other Primary aircraft	139
Active Component	600
Reserve Component	17

Anti-Surface/Submarine Warfare Aviation Inventories & Funding FY 2014-2023



The above chart depicts annual Anti-Surface/Submarine Warfare inventory and funding projections over FY14–23. Details on DoN Anti-Surface/Submarine Warfare aviation plans are outlined in the following paragraphs.

Department of the Navy. The MH-60R and MH-60S multi-mission combat helicopters are integral to carrier air wings and individual surface combatants to meet requirements for defensive anti surface warfare (ASUW) and anti submarine warfare (ASW). Both helicopters are pillars of the naval helicopter concept of operations for the 21st century.

The P-8A Poseidon will replace the P-3C maritime patrol aircraft, first introduced in 1962. With its proven propulsion system and avionics, modern sensors and robust communication suite, the P-8A will provide persistent ASW and ASUW capabilities as well as ISR to keep pace with emerging threats. The P-8A features a sensor and communications suite built within an open architecture to facilitate the insertion of state-of-the-art ASW sensors, net-ready technologies, and the latest in joint weapons throughout its service life. P-8A will tailor integration of its on-board mission suite with unmanned aerial vehicles and satellite based systems and sensors to assure maritime domain awareness. P-8A is based on an evolutionary acquisition approach with two increments. Increment 2 to be fielded not later than FY16 provides enhanced broad area ASW and weapon capabilities. Increment 3 is expected to be fielded in FY20 and will deliver network enabled ASUW weapon; full compliance with the net-ready key performance parameter; architecture upgrades; ASW sensor and targeting enhancements; and improved communications capability.

Trainers

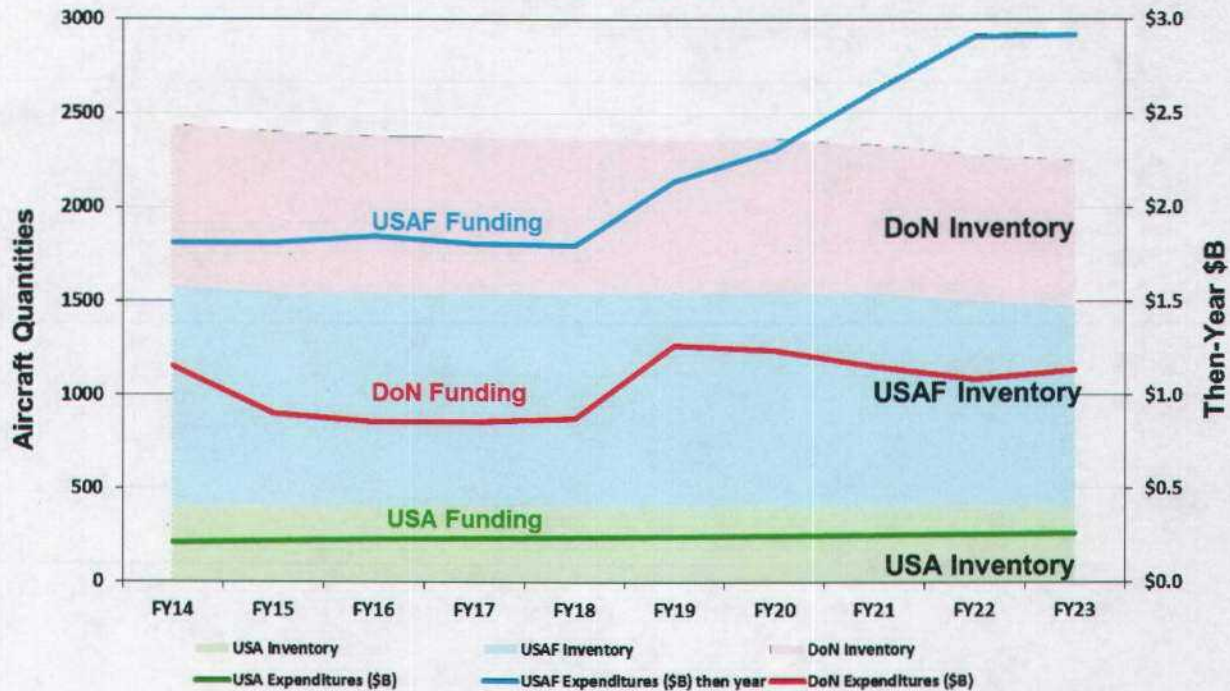
The following tables show the DoD Trainer aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Military Departments.

Trainers	Army	Air Force	DoN
	TH-67, OH-58A/C	T-1, T-38, T-6, T-X	T-34, T-39, T-44, T-45, T-6, TAV-8B, TH-57, TC-12, U-6, X-26

2013 Trainers Aviation Inventory

Category	Inventory		
	Army	Air Force	DoN
Total Aircraft	403	1211	793
Mission	123	0	0
Training	275	961	705
RDT&E	5	15	9
Backup, Attrition Reserve, and Other Primary aircraft	0	235	79
Active Component	322	1211	793
Reserve Component	81	0	0

Trainer Aviation Inventories & Funding FY 2014-2023



The above chart depicts annual trainer aircraft inventory and funding projections over FY14 – 23 broken out by military departments. Details on Army, Air Force and DoN training aircraft investment plans are outlined in the following paragraphs.

Department of the Army. A new training helicopter requirement has not been defined by Army Aviation. The current capability (TH-67 and OH-58A/C) will be sustained until a requirement is defined and funding is available to procure a new capability.

Department of the Air Force. Currently, the T-6 forms the backbone of the Air Force primary flight training program and will remain so through the 2040 timeframe. Additionally, the T-1A fleet provides advanced flight training for multi-engine/multi-crew tankers and mobility aircraft. The T-38C is a proven, but aging advanced combat trainer aircraft originally developed as a trainer for second generation fighters. The USAF T-38C fleet faces increasing sustainment costs and is limited in its ability to fulfill training requirements for fifth generation fighters such as the F-22 and F-35. As such, the Air Force is defining a replacement program, the T-X, envisioned to begin procurement in FY20 with a planned IOC in FY23.

Department of the Navy. The Navy is transitioning to the T-6B Texan II Joint Primary Trainer as the T-34C TurboMentor retires. The T-45C Goshawk will become the single advanced strike trainer for tailhook pilots and naval flight officers as the T-39G/N Sabreliner is retired. The T-45C replacement will need to be identified in the 2020s to meet the retirement of the T-45C. The T-44A/C Pegasus and TC-12B Huron serve as the multiengine trainers for the Department. The T-44 replacement will need to be identified in order to begin service in the mid to late 2020s.

The TH-57B/C will be upgraded to the single cockpit configuration TH-57D and will be used as both a rotary-wing and tilt-rotor training aircraft.

ISR / Scout / C4

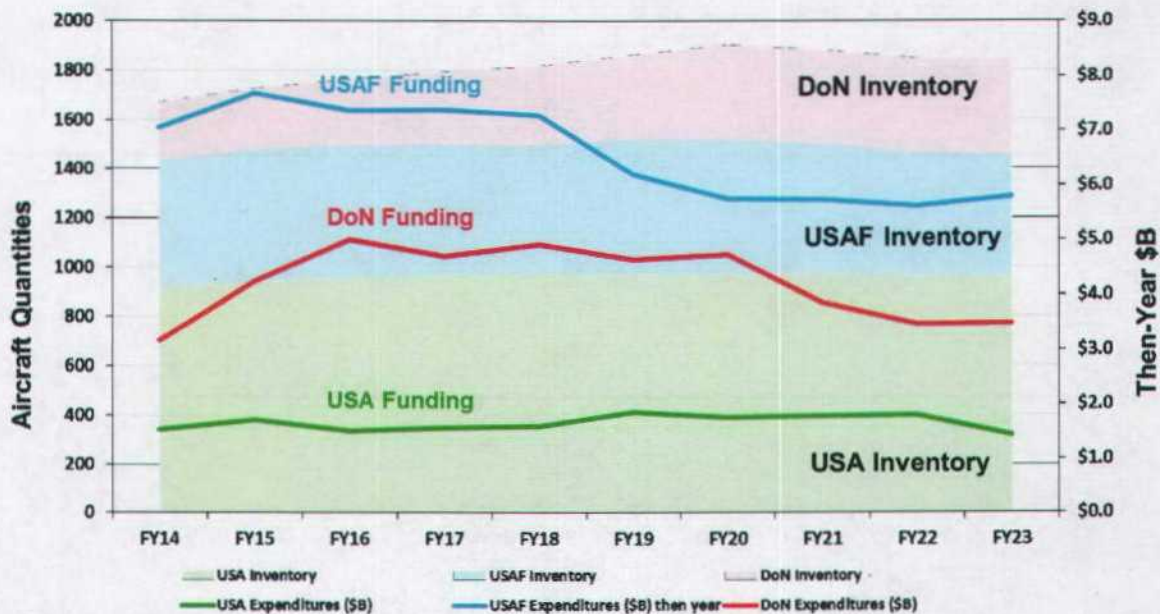
The following tables list DoD ISR / Scout / C4 aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Military Departments.

ISR / Scout / C4	Army	Air Force	DoN
	OH-58, RC-12, RC-7, B-300, C-12, MQ-1	OC-135, E-3, E-4, E-8, EC-130, MC-12, MQ-1, MQ-9, RC-135, RC-26, RQ-4, U-2, WC-135	E-2, E-6, EP-3, TE-2, MQ-4, MQ-8, RQ-4, UCLASS, UCAV

2013 ISR / Scout / C4 Aviation Inventory

Category	Inventory		
	Army	Air Force	DoN
Total Aircraft	892	534	132
Mission	779	385	68
Training	85	75	13
RDT&E	12	35	20
Backup, Attrition Reserve, and Other Primary aircraft	16	36	31
Active Component	716	463	129
Reserve Component	176	71	3

ISR / Scout / C4 Inventories & Funding FY 2014-2023



The above chart depicts annual ISR / Scout / C4 aircraft inventory and funding projections over FY14 – 23 broken out by Military Department (small UAS, less than Group 4, are not included in the data). Details on the Army, Air Force, and DoN ISR / Scout / C4 aviation plans are outlined in the following paragraphs.

Department of the Army. The remaining aviation assets are in the reconnaissance aviation fleet. The Army is conducting analysis to determine whether to extend the life of the OH-58F through recapitalization or field a new armed reconnaissance helicopter, the Armed Aerial Scout (AAS). Additionally, the Army has a UAS fleet that is comprised of small (Raven), medium (Shadow), and large (Gray Eagle) aircraft. All UAS(s) are existing programs of record and are under active acquisition programs to meet fleet size objectives over the next five years. The first unit to receive Gray Eagle was fully fielded and deployed in FY12. However, pre-production Gray Eagle variants have been flying in combat theaters as quick reaction capability units since 2006 and the Army has already begun to garner lessons learned for the program of record. The Gray Eagle UAS will be fielded to Active Component Division Headquarters and provide direct support capabilities to deployed divisions, Combat Aviation Brigades, and subordinate Brigade Combat Teams. Two Gray Eagle Companies will be assigned to Aerial Exploitation Battalions to provide globally available ISR support. Two Gray Eagle companies will also be assigned to the Army Special Operations Aviation Regiment. Long-term, the following changes are planned for the Army's reconnaissance aviation fleet:

- **Armed Aerial Scouts:** Sustain the AAS capability by extending the life of the OH-58F or procuring a new armed reconnaissance helicopter.

- Aerial ISR: Today, the Aerial ISR fleet consists of the RC-12 fleet, Airborne Reconnaissance Low (EO-5C), EMARSS, and the Quick Reaction Capabilities within the Task Force ODIN fleet. The Army's Aerial ISR strategy will maintain modernized versions of the RC-12X and ARL alongside the Gray Eagle and EMARSS systems under development today. The Army will transition sensors and systems developed and fielded during OEF/OIF into both the ARL and EMARSS programs of record.
- MI Fixed Wing: The MI Fixed Wing fleet consists of RC-12 fleet, Armed Reconnaissance Low (RC-7/EO-5) and the TF ODIN fleet. Each of these fleets will require a replacement aircraft in the 2020 timeframe as they reach their service life end state. The Army is beginning development of a strategy to address these airframes.
- MQ-1C (Gray Eagle): Continue to perform Pre-Planned Product Improvements (P3I). P3I items include improvements to the airframe, payloads, ground control stations and other enablers to keep the Gray Eagle program of record relevant.
- RQ-7B (Shadow): Continue to perform P3I. P3I items include a new propulsion system, improved payloads, and simulation trainers.

Department of the Air Force. The Air Force is maintaining the right mix of capability and capacity to ensure we meet joint requirements for ISR. The operational capability of the RQ-4 Block 30 and the U-2 will provide effective and sustained high altitude ISR support to combatant commanders and joint warfighters. Per direction from the NDAA, the Air Force will sustain the Block 30 Global Hawk through December 2014.

The MC-12W was designed as a quick response capability to satisfy ISR requirements in Afghanistan. The Air Force will maintain the MC-12W aircraft in the Active Component. The Air Force will gradually reduce the MC-12W from ten to two forward-deployed Combat Air Patrols (CAPs) by the end of FY14

The Air Force is committed to continue developing and managing its RPA crews and fleet to provide the right mix of capability to meet CCMD demands now and into the future. In the near term, the Air Force will procure MQ-9 Reapers at a rate of 12 aircraft in FY14, 24 aircraft per year through FY21 – compared to the previously planned 48, fund the MQ-9 program to Milestone C, and will begin funding transition from contractor logistics support to organic depot support this year. Analyses are ongoing to determine the capabilities and quantities needed for a successor system. In addition, the Air Force chose to freeze the MQ-1 in its current configuration, completing only those modifications currently underway.

The Air Force is modernizing its legacy ISR and C4 fleet and is assessing alternatives with regard to procuring new platforms in the future. In the near-term the Air Force is committed to modernization of E-3B/C Airborne Warning and Control System (AWACS) to the E-3G configuration. This involves advanced mission computing and avionics that ensure the long-term viability of joint airborne tactical command and control. The Air Force is also committed to modernization of mission communications on the E-4 National Airborne Operations Center, and resolution of obsolescence issues with prime mission equipment onboard the E-8C Joint

Surveillance Target Attack Radar System (JSTARS). Far-term efforts will include the potential recapitalization of the Air Force's ISR and C4 fleets. Near term, this year's aviation plan reflects some EC-130 Compass Call recapitalization investment outside the FYDP. Additionally, the Air Force will retire one damaged E-8C JSTARS aircraft because it is economically impractical to repair.

Department of the Navy. Over the next 10 years the Navy will invest in the development of a carrier-based unmanned aircraft. Leveraging the Unmanned Combat Aircraft System – Demonstration (UCAS-D), the Navy is developing the UCLASS system that will provide persistent, sea-based ISR with precision strike capabilities to the Joint Force with an initial capability by 2020.

In the long term, the Department of the Navy will capitalize on the UCAS-D, initial UCLASS capability, and our analysis of future, sea-based unmanned systems in an effort to identify the appropriate mix of manned and unmanned assets in our future air-wing structure.

Leveraging Global Hawk technology, the Navy will procure the MQ-4C Triton aircraft to enhance situational awareness and shorten the time it takes to prosecute targets. MQ-4C Triton will complement other platforms by providing very long dwell ISR capabilities for missions in littoral and maritime areas. MQ-4C Triton Multi-INT will supplement the baseline MQ-4C Triton UAS program and provide long endurance, land-based, remotely operated Signals Intelligence capabilities, and further enhance airborne support to Maritime Domain Awareness and Intelligence Preparation of the Battlespace/Environment.

MQ-8B vehicles are providing ISR support to missions in Afghanistan and to Special Operations Forces missions using electro-optical/infrared and other mission payloads. Future MQ-8 missions will involve modular payloads supporting LCS class ship deployments. Various Rapid Deployment Capability initiatives, to include radar and weapons integrations and the MQ-8C endurance upgrade, will provide persistent ISR capabilities for urgent Joint and Navy requirements. No replacement system has been identified beyond 2025.

The E-2D Advanced Hawkeye will achieve initial operational capability in FY15 and will replace the E-2C with the last squadron transition in mid-2020s. Incorporating advanced Space Time Adaptive Processing radar and other enhanced systems, the E-2D will improve open-ocean surveillance capability; provide littoral surveillance, and integrated air and missile defense capabilities against emerging air and cruise missile threats in high clutter environments. The E-2D is priced for a 32 aircraft multiyear procurement during FY14-18, with final program of record delivery through 2023.

The E-6B Mercury derived from the Boeing 707 aircraft supports a flexible nuclear deterrent posture. Programmed mission system upgrades ensure the fleet remains on the cutting edge of full-spectrum communications supporting nuclear command, control and communications. The E-6B aircraft are expected to reach their end of life of 45,000 hours as early as January 2040. A replacement aircraft will be identified to meet anticipated requirements within the 30 years encompassed by this report. Final inventory objective is projected to be 17 aircraft.

CNO has established guiding principles for ISR that focus on payloads, every platform being a networked sensor, and a transition to unmanned platforms. The Navy is developing a "System of Systems" construct to recapitalize the Airborne ISR&T capabilities currently resident in the EP-3 and SPA by the end of the decade. The focus is on developing common, scalable sensor payloads that can be delivered by a wide range of manned and unmanned programs including MQ-4C Triton Multi-INT, VTUAV, UCLASS, E-2C/D, H-60 and P-8. Level of effort and capacity required for each program will be determined by adversary threat posture and Fleet/COCOM requirements. All these programs of record will be able to leverage the common sensor developments to avoid expensive "one-off" solutions thereby reducing the Navy's integration and interoperability costs. In order to facilitate a smooth transition, the squadron operators and NAVAIR acquisition team members in the EP-3 and SPA communities with Multi-INT expertise will be leveraged to continue sensor development and operational employment of these capabilities.

Over the long-term, the Navy will examine alternatives for recapitalizing the E-2D, P-8A, E-6B and MQ-4C fleets in the mid 2030's.

Special Operations Forces

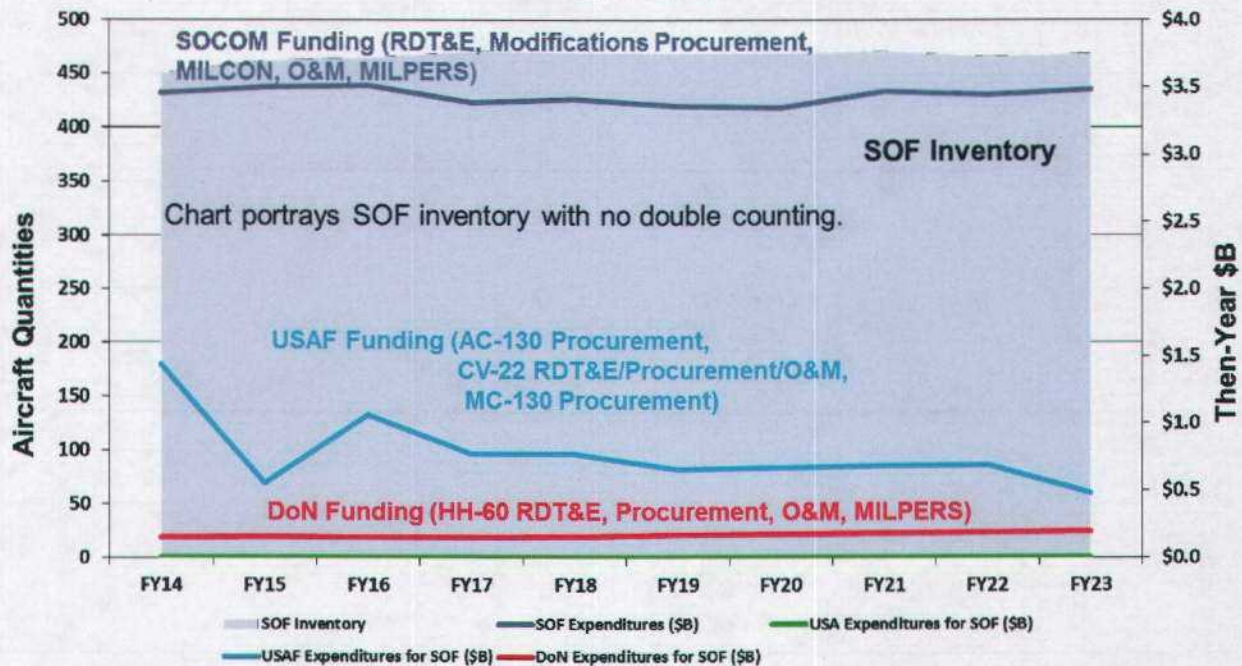
The following tables list DoD Special Operations Forces aviation assets and the 2013 current inventory by category for all active aircraft consistently tracked by the Departments.

Special Operations Forces	SOCOM
	AC-130, EC/C-130, C-32, C-146A, C-145A, MC-130, PC-12, U-28, UH-1, C-12, CASA-212, UV-20, CV-22, UH-1, A/MH-6, MH-47, MH-60, MH-6, MQ-1, MQ-9

2013 Special Operations Forces Aviation Inventory

Category	Inventory
	SOCOM
Total Aircraft	456
Mission	340
Training	68
RDT&E	2
Backup, Attrition Reserve, and Other Primary aircraft	46
Active Component	444
Reserve Component	12

Special Operations Inventories & Funding FY 2014-2023



The above chart depicts annual Special Operations Forces Aviation inventory and funding projections over FY 2014 – 2023, to include Army, Air Force, and DoN contributions. Specific details on Special Operations Forces Aviation are outlined in the following paragraphs.

Special Operations Forces Aviation. In FY14, the Air Force is replacing the legacy AC-130 gunship fleet one-for-one with AC-130Js. The Air Force also added funding to buy four additional MC-130J aircraft and begin the recapitalization of the MC-130W fleet.

The Air Force's SOF vertical lift capability remains on track with 28 CV-22 aircraft operational at the end of FY12 and growing to 40 by FY14. The final CV-22 will be procured in FY14 and delivered in FY16, completing the planned purchase of 51 aircraft.

Concerning the DoN, the HH-60H is currently serving as the Navy's primary special operations support helicopter. Replacement of the HH-60H will occur in the 2020s initially leveraging the existing MH-60S until either the MH-XX or an option from the Joint Future Vertical Lift efforts becomes viable.

With respect to the Army, the Army's Special Operations Aviation Command (ARSOAC) helicopter fleets are all undergoing modernization efforts focused on countering obsolescence and affordable performance and survivability improvements. However, the ARSOAC multipurpose armed reconnaissance helicopter (A/MH-6), and the Heavy Assault helicopter (MH-47G) are significantly older than the equivalent aircraft in the Army and will pose service life and life-cycle sustainment challenges. Particular attention to service programs will be required during this time period to ensure the service life of these aircraft can align with the larger services efforts.

Budget Certification

The Department's FY14 budget request and the associated FY14-18 FYDP provide the funding needed to implement the aviation investment plan through FY18 for all programs of record.

Sufficiency of Forces Assessment

The FY14-43 aviation plan meets the national military strategy of the United States.

Appendix I – Inactive Aircraft

Data for inactive aircraft is available for the Army and Air Force. The Navy does not track aircraft once they are stricken from the active inventory.

USAF Inactive Aviation Inventory

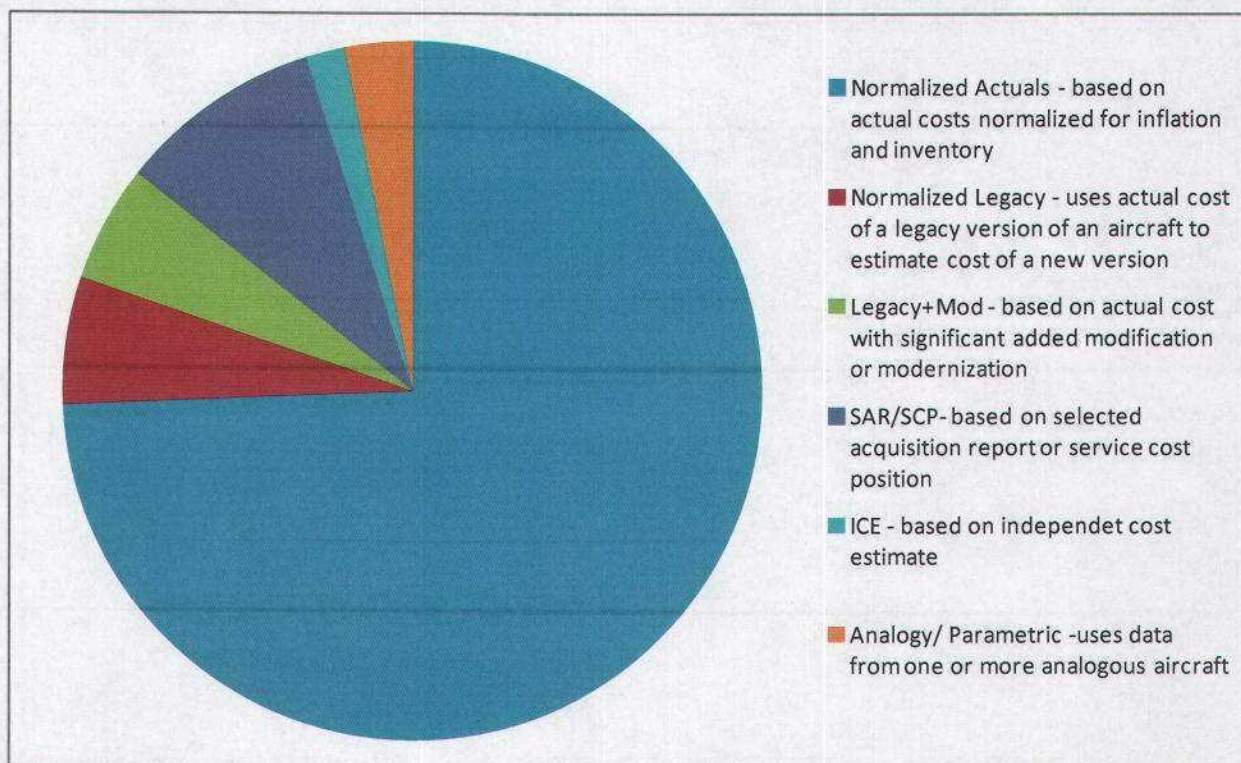
Inactive USAF Inventory	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Fighter / Attack	670	660	655	655	655	655	655	655	655	655
Airlift / Cargo / Utility	180	188	194	200	200	200	200	200	200	200
Air Refueling	158	158	158	158	158	158	158	158	158	158
Trainers	36	36	36	36	36	36	36	36	36	36
Total	1044	1042	1043	1049	1049	1049	1049	1049	1049	1049

Army Inactive Aviation Inventory

Inactive Army Inventory	FY14	FY15	FY16	FY17	FY18	FY19	FY20	FY21	FY22	FY23
Attack Helicopter	42	48	48	48	48	48	41	41	41	41
Airlift / Cargo / Utility	147	168	234	232	257	236	206	191	199	196
ISR / Scout	9	26	37	33	38	38	39	38	45	50
Total	198	242	319	313	343	322	286	270	285	287

Appendix II – Sources of Cost/Funding Information

The Budget Certification above is based on a number of cost sources identified in the chart below. Most of the aircraft types dealt with in this report have entered service, and many types are out of production. For these types of aircraft, the funding data is based on actual experience with procuring and operating the aircraft. For types of aircraft that are in development or low-rate initial production, the funding information comes from a CAPE Independent Cost Estimate (ICE) or the Service Cost Position (SCP). For programs that do not yet have an ICE or SCP, the funding information is based on historical analogy with similar programs (e.g., future fighters with F-22 and F-35, future bombers with the B-2).



CAPE prepares an ICE for aviation programs at major milestones, in response to Nunn-McCurdy breaches, and when requested to do so by the Under Secretary of Defense for Acquisition, Technology, and Logistics. For most programs, the latest SCP is newer than the CAPE ICE and incorporates the ICE plus developments that occurred after the ICE was prepared. The CAPE ICE almost always differs from the last SCP conducted before the ICE by more than 0.5%.

The table below lists programs currently having both an up-to-date SCP and an up-to-date CAPE ICE and shows the percentage difference between these positions. These are the only cases where the difference between the ICE and the SCP is relevant to the funding data presented in this report. For all other aircraft types, the funding data used in this report is based on historical procurement/sustainment costs, an SCP that is much newer than the ICE, an SCP that has not yet been followed by an ICE, or analogies with other programs. In each case of relevance to the funding data in this report, the CAPE ICE projects greater costs than the SCP. Each program

ICE explains, in detail, the reasons for differences from the SCP. A shorter and simplified explanation for the differences appears below the table.

Program	Delta
KC-46 tanker	2%
F-35 Joint Strike Fighter	5%
P-8A Poseidon	2%
AH-64 Apache Block 3A	1%
AH-64 Apache Block 3B	4%
Delta = (ICE - SCP)/SCP	

KC-46 Tanker. The CAPE and SCP cost estimates for the KC-46 are about two percent different in total. The difference is primarily driven by procurement. Procurement differences can be attributed to expectations of the concession rates that can be achieved when procuring the commercial ("green") aircraft to be modified. Differences can also be attributed to the estimated costs of procuring and installing mission systems on this "green" aircraft

F-35 Joint Strike Fighter. The difference between the CAPE and SCP cost estimates for the F-35 is primarily attributed to the areas of procurement (2%), MILCON (86%), and O&S (6%). The largest difference between CAPE and SCP estimates of procurement costs is attributable to the assumed future levels of commonality between F-35 variants. The CAPE estimate reflects less commonality among the three F-35 variants than the SCP estimate and, as a result, the CAPE estimates of variant unit costs are higher because of the inherent procurement inefficiencies associated with reduced commonality. The SCP estimate for MILCON uses previously-generated, narrowly defined service estimates that did not include all MILCON efforts required to support the entire F-35 fleet. The CAPE estimate is based on the facilities and infrastructure required for the joint training center planned for Elgin Air Force Base, and service-specific requirements for the Air Force, the Marine Corps, and the Navy. To estimate O&S costs, the SCP reflects the manning structure outlined in the MER. The CAPE estimate adjusts mission personnel to better reflect the actual staffing of the F-16 and F-22, which are on average more senior in grade than those in the MER. Also, the CAPE estimate of unit-level consumption costs is higher than the SCP, primarily because the CAPE estimate uses an F-22 analogy for government-provided consumables while the SCP uses legacy Navy data. The CAPE estimate also applies cost growth to both the air vehicle and engine, while the SCP applies cost growth only to the air vehicle.

P-8A POSEIDON. The CAPE and SCP cost estimates for the P-8A are nearly identical, with small differences in procurement (2%) and O&S (2%). The CAPE estimate for procurement is higher primarily due to differences in assumed cost escalation for both the base aircraft and P-8A- unique modifications over time. For the base aircraft, the SCP uses a contractor proposed Producer Price Index (PPI) while CAPE uses slightly higher escalation factors based on the historical difference between the aircraft procurement budget escalation indices and the aircraft PPI for the past ten years. For the P-8A-unique modifications, the SCP assumes a contractor estimated level of reasonable changes, while CAPE assumes that modifications costs will grow over time, due to more typical engineering changes in early production. For O&S the largest difference in the estimates is in unit

personnel, where CAPE assumes manning numbers as identified in the MER while the SCP adjusts the enlisted military personnel numbers down to reflect predicted authorizations.

AH-64 Apache Block 3A/3B. The differences between the CAPE and SCP cost estimates for the Apache Block 3A and Block 3B programs are primarily attributed to RDT&E for Block 3A (11%) and procurement for Block 3A and 3B (11% and 7% respectively). The difference in RDT&E is driven primarily by software development activities. The CAPE cost estimates for these activities were developed by first estimating the cost of the remaining development based on Phase 1 software productivity, and then constraining program execution over time to the currently available software engineering staff. In contrast, the SCP did not constrain program execution to the available software development staff, so the RDT&E effort requires more resources up front than the CAPE estimate and finishes earlier. This approach would require the contractor to temporarily increase its software engineering staff; an action CAPE maintains is counterproductive and inefficient. The CAPE estimates for both Block 3A and 3B procurement are moderately higher than the SCP due to differing assumptions for labor and material learning curves, material escalation rates, and the production break impact resulting from the transition from the Apache Block 2 production line to the new Block 3 line.

Confidence Levels. CAPE cost estimates are built upon a product-oriented work breakdown structure, based on historical actual cost information to the maximum extent possible, and most importantly, based on conservative assumptions that are consistent with actual demonstrated contractor and government performance for a series of acquisition programs in which the Department has been successful. It is difficult to calculate mathematically the precise confidence levels associated with CAPE life-cycle cost estimates prepared for MDAP programs. Based on the rigor in methods used in building CAPE estimates, the strong adherence to the collection and use of historical cost information, and the review of applied assumptions, it is equally likely that the CAPE estimate will prove too low or too high for execution of the described program.