Brief Histories of

U.S. Government Agencies

Volume Five

Compiled and Edited by

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About the Editor

Michael Erbschloe has worked for over 30 years performing analysis of the economics of information technology, public policy relating to technology, and utilizing technology in reengineering organization processes. He has authored several books on social and management issues of information technology that were published by McGraw Hill and other major publishers. He has also taught at several universities and developed technology-related curriculum. His career has focused on several interrelated areas:

- Technology strategy, analysis, and forecasting
- Teaching and curriculum development
- Writing books and articles
- Publishing and editing
- Public policy analysis and program evaluation

Books by Michael Erbschloe

Social Media Warfare: Equal Weapons for All (Auerbach Publications)
Walling Out the Insiders: Controlling Access to Improve Organizational Security (Auerbach Publications)
Physical Security for IT (Elsevier Science)
Trojans, Worms, and Spyware (Butterworth-Heinemann)
Implementing Homeland Security in Enterprise IT (Digital Press)
Guide to Disaster Recovery (Course Technology)
Socially Responsible IT Management (Digital Press)
Information Warfare: How to Survive Cyber Attacks (McGraw Hill)
The Executive's Guide to Privacy Management (McGraw Hill)
Net Privacy: A Guide to Developing & Implementing an e-business Privacy Plan (McGraw Hill)

Introduction

This book provides a brief history of U.S. Government agencies that were retrieved from the agency websites and other sources. The purpose is to preserve that documentation. The editor is not attempting to copyright public documents.

Quotes from Inaugural Addresses

“And so, my fellow Americans: Ask not what your country can do for you—ask what you can do for your country. My fellow citizens of the world: ask not what America will do for you, but what together we can do for the freedom of man.”

– John F. Kennedy, January 20, 1961

“Justice requires us to remember that when any citizen denies his fellow, saying, ‘His color is not mine,’ or ‘His beliefs are strange and different,’ in that moment he betrays America, though his forebears created this nation.”

– Lyndon B. Johnson, January 20, 1965

“The greatest honor history can bestow is the title of peacemaker. This honor now beckons America — the chance to help lead the world at last out of the valley of turmoil and onto that high ground of peace that man has dreamed of since the dawn of civilization.”

– Richard M. Nixon, January 20, 1969

“I believe that truth is the glue that holds government together, not only our government but civilization itself.”

– Gerald R. Ford, address after taking the oath of office on August 9, 1974

“To be true to ourselves, we must be true to others. We will not behave in foreign places so as to violate our rules and standards here at home, for we know that the trust which our Nation earns is essential to our strength.”

– Jimmy Carter, January 20, 1977

“In this present crisis, government is not the solution to our problem; government is the problem.”

– Ronald Reagan, January 20, 1981

“America is never wholly herself unless she is engaged in high moral principle. We as a people have such a purpose today. It is to make kinder the face of the nation and gentler the face of the world.”

– George H. W. Bush, January 20, 1989

“There is nothing wrong with America that cannot be cured by what is right with America.”

– Bill Clinton, January 20, 1993

“Through much of the last century, America’s faith in freedom and democracy was a rock in a raging sea. Now it is a seed upon the wind, taking root in many nations.”

– George W. Bush, January 20, 2001

“Our time of standing pat, of protecting narrow interests and putting off unpleasant decisions — that time has surely passed. Starting today, we must pick ourselves up, dust ourselves off, and begin again the work of remaking America.”

– Barack Obama, January 20, 2009

(Link: https://prologue.blogs.archives.gov/)

The history of the United States is vast and complex, but can be broken down into moments and time periods that divided, unified, and changed the United States into the country it is today:

1700-1799

- The American Revolution (sometimes referred to as the American War of Independence or the Revolutionary War) was a conflict which lasted from 1775-1783 and allowed the original thirteen colonies to remain independent from Great Britain.

•American politician and soldier George Washington became the first President of the United States in 1789, serving two terms.

•Beginning in Great Britain in the late 1790s, the Industrial Revolution eventually made its way to the United States and changed the focus of our economy and the way we manufacture products.

1800-1899

•In 1803, President Thomas Jefferson agreed to the Louisiana Purchase, successfully adding 530 million acres of land to the United States. The area was purchased from France for $15 million. The following year, President Jefferson assigned Meriwether Lewis (who asked for help from William Clark) to head west and explore the newly purchased land. It took about a year and a half for the duo to reach the west coast.

•The American Civil War divided the United States in two – the Northern States versus the Southern States. The outcome of the four year battle (1861-1865) kept the United States together as one whole nation and ended slavery.

1900-1999

•On December 17, 1903, brothers Wilbur and Orville Wright became the first people to maintain a controlled flight in a powered, heavier-than-air machine. The Wright Flyer only flew for 12 seconds for a distance of 120 feet, but their technology would change the modern world forever.

•On April 6, 1917, the United States entered World War I by declaring war on Germany.

•After nearly 100 years of protests, demonstrations, and sit-ins, women of the United States were officially granted the right to vote after the 19th Amendment was ratified on August 26, 1920.

•The worst economic crisis to happen in the United States occurred when the stock market crashed in October 1929 resulting in the Great Depression.

•World War II officially begins in September 1939 after Germany invades Poland. The United States didn't enter the war until after the Japanese attack on Pearl Harbor on December 7, 1941.

•On August 6 and August 9 1945, the United States dropped an atomic bomb on the Japanese cities of Hiroshima and Nagasaki, effectively ending World War II.

•After World War II, an agreement was reached to divide Korea into two parts: a northern half to be controlled by the Soviet Union and a southern half to be controlled by the United States. The division was originally meant as a temporary solution, but the Soviet Union managed to block elections that were held to elect someone to unify to country. Instead, the Soviet Union sent North Korean troops across the 38th parallel leading to the three-year long (1950-1953) Korean War.

•From 1954-1968, the African-American Civil Rights movement took place, especially in the Southern states. Fighting to put an end to racial segregation and discrimination, the movement resulted in the 1964 Civil Rights Act, the 1965 Voting Rights Act, and the 1968 Fair Housing Act.

•The Vietnam War was a nearly 20 year battle (November 1, 1955–April 30 1975) between North Vietnam and South Vietnam. North Vietnam won the war and Vietnam became a unified country.

•The Apollo 11 mission (July 16-24, 1969) allowed United States astronauts Neil Armstrong and Edwin "Buzz" Aldrin to become the first humans to walk on the moon's surface.

2000-Present

•The terrorist attacks on September 11, 2001, changed the United States forever. Less than a month later (October 7, 2001) the United States began the War in Afghanistan, which is still happening today.

•On March 20, 2003, the United States invaded and occupied Iraq. The war lasted for more than eight years before it was officially declared over on December 18, 2011.

•In 2008, Barack Obama became the first African-American to be elected President of the United States.

•Operation Neptune Spear was carried out on May 2, 2011, resulting in the death of long-time al-Qaeda leader Osama bin Laden.

(Link: https://www.usa.gov/history#item-37632)

Central Intelligence Agency (CIA)

The United States has carried out intelligence activities since the days of George Washington, but only since World War II have they been coordinated on a government-wide basis. President Franklin D. Roosevelt appointed New York lawyer and war hero, William J. Donovan, to become first the Coordinator of Information, and then, after the US entered World War II, head of the Office of Strategic Services (OSS) in 1942. The OSS – the forerunner to the CIA – had a mandate to collect and analyze strategic information. After World War II, however, the OSS was abolished along with many other war agencies and its functions were transferred to the State and War Departments.

It did not take long before President Truman recognized the need for a postwar, centralized intelligence organization. To make a fully functional intelligence office, Truman signed the National Security Act of 1947 establishing the CIA. The National Security Act charged the CIA with coordinating the nation's intelligence activities and correlating, evaluating and disseminating intelligence affecting national security.

On December 17, 2004, President George W. Bush signed the Intelligence Reform and Terrorism Prevention Act which restructured the Intelligence Community by abolishing the position of Director of Central Intelligence (DCI) and Deputy Director of Central Intelligence (DDCI) and creating the position the Director of the Central Intelligence Agency (D/CIA). The Act also created the position of Director of National Intelligence (DNI), which oversees the Intelligence Community and the National Counterterrorism Center (NCTC).

The Mapmaker's Craft: A History of Cartography at CIA
Arthur H. Robinson, Founder of today's Cartography Center
(Link: https://www.cia.gov/news-information/featured-story-archive/2016-featured-story-archive/mapmakers-craft.html)

Since 1941, the Cartography Center maps have told the stories of post-WWII reconstruction, the Suez crisis, the Cuban Missile crisis, the Falklands War, and many other important events in history.

On July 11, 1941, President Franklin D. Roosevelt established the United States' first peacetime, non-departmental intelligence organization, the Office of the Coordinator of Information (COI), and authorized it to collect and analyze all information and data relevant to national security. COI, headed by William "Wild Bill" Donovan, reported directly to the President. Donovan recruited the best and the brightest from universities, businesses, and law firms focused on foreign affairs or with experience abroad.

After the Pearl Harbor attack on December 7, 1941, COI expanded rapidly and its maps began to circulate widely. Robinson was joined by geographer Robert Voskuil, and the two focused on recruiting staff, procuring equipment, and developing training procedures. By February 1, 1942, the Cartography Section was fully operational, with Robinson serving as its chief. The Map Information Section was added to procure commercial maps, for use by cartographers and to reproduce for policymakers.

With wartime needs requiring its expansion, COI grew from an office into America's first intelligence agency and was replaced by the Office of Strategic Services (OSS) on June 13, 1942. To satisfy a dramatic increase in the demand for customized thematic maps for the President, Joint Chiefs of Staff (JCS), Joint Army Navy Intelligence Studies (JANIS), Board of Economic Warfare, and COI, the Cartography Section added 28 geographers by the end of 1942.

At that time, there were no cartographers as we know them today—so Robinson recruited geographers with an interest in mapping, and they learned on the job. Robinson developed a unique system of map production to operate in the field of intelligence, and it evolved rapidly to improve map quality and production efficiency.

In March 1943, the Topographic Models Section was added, and the three sections—Cartography, Map Information, and Topographic Models—formed the new Map Division. Geographers and cartographers amassed what would be the largest collection of maps in the world and produced strategic maps and 3D plaster terrain models in support of strategic studies and military operational plans for the JCS, the Office of Naval Intelligence, OSS, and the War Department.

The Map Division was intimately involved in the planning strategy of the Allied invasion of North Africa and Italy. It also assessed the economic and topographic conditions in other areas vital to the conduct of the war, including in the Asia-Pacific Theater. The JCS called upon cartographers for much of their secret security work concerning operations and valued cartographers for their support at the Allied conferences.

Serving as the premier source for strategic thematic maps and map resources, the Cartography and Map Information Sections survived the abolishment of OSS on October 1, 1945 and were transferred to the Division of Geography and Cartography in the Department of State. The Cartography Section would remain at the State Department until July 1, 1947, when it was transferred to the Central Intelligence Group (CIG).

Shortly thereafter, CIG gained the status of a full agency and became the Central Intelligence Agency on September 18, 1947. Serving a unique need with world-class products, Cartography Center has withstood much reorganization and name changes in the past 75 years and continues to provide timely and effective map services in support of a variety of national security topics.

1940s

In the early 1940s, map layers were drafted by hand using pen and ink on translucent acetate sheets mounted on large Strathmore boards. They were drafted at larger sizes than needed for the final (typically at a 4:1 ratio) and printed at a reduced size using photomechanical methods. Standard symbols and labels preprinted on adhesive-backed cellophane sheets called "stick-up" were applied to maps for uniformity.

During this decade, in support of the military's efforts in World War II (WWII), cartographers pioneered many map production and thematic design techniques, including the construction of 3D map models. Cartographic support was key to the US war-planning strategy. In addition to

the major events of WWII, during the 1940s, cartographic production was primarily driven by postwar reconstruction, turmoil in the Middle East, and communist expansion.

1950s

The 1950s witnessed improved efficiency in map compilation and construction processes. Map layers were drafted in pen and ink on vinyl sheets for photomechanical reproduction, and type was handset using precast lead letters. Cartographers then learned scribing techniques to produce high-quality line-work for maps and adapted shaded relief techniques to better depict the nature of the terrain on maps.

As production capabilities improved to turnaround times of less than one day, a small group of cartographers and graphic designers from the Cartography Division was placed in the Cartographic Support Section to work specifically on current intelligence—daily analysis prepared for the President and other selected senior US officials.

During the 1950s, cartographic production was primarily driven by the Cold War, the Korean war, the French defeat in Vietnam, the Suez crisis, and the rise of the Castro regime in Cuba.

1960s

In 1965, the Director of Central Intelligence actively encouraged analysts to use visual arts to help explain complex problems. The Vietnam War also generated an increase in demand for maps.

In 1966, a large working group, using a borrowed digitizer, compiled and digitized coastlines and international boundaries for the entire world—in a single weekend. This digital geographic database, World Data Bank I (WDBI), contained more than 100,000 vertices that could be projected using the Cartographic Automatic Mapping (CAM) program. This eliminated the need for hand scribing graticules and coastlines, drastically expediting map production.

During the 1960s, cartographic production was primarily driven by the continuation of the Bay of Pigs invasion, the Cold War, the Cuban Missile Crisis, the Six-Day War, the Soviet expansion, US involvement in Vietnam, and the advent of numerous African countries gaining independence.

Automation efforts flourished in the 1970s. The development of World Data Bank II (WDBII) was heavily emphasized, and more detailed data—including those for rivers, roads, railroads, administrative divisions, populated places, and attributes—were added to the growing database. Electronic typesetting capability was added, and equipment was upgraded to allow production of separation plates, vugraphs, and slides for publications and briefings. Improved efficiency led to an increase in research projects, particularly in atlases and street guides.

During the 1970s, cartographic production was primarily driven by the Vietnam war, President Nixon’s visit to China, the Arab oil embargo, the Camp David accords, the Soviet invasion of Afghanistan, and the Islamic Revolution and the seizure of US Embassy officers in Tehran in November of 1979.

1980s

In the 1980s, CIA's analytical corps expanded quickly, and the demand for maps used in briefing materials and publications increased dramatically, with more complex requests and shortened time frames. During this decade, cartography made a technological transition—from a time-intensive manual system to a computer-automated system that allowed quicker turnaround times and more innovative ways of presenting intelligence. Cartographers received Intergraph interactive color workstations to design and construct digital 2D maps and 3D terrain models. A high-speed, photoscribing plotting process was added, and a modest research program was reinstated.

During the 1980s, cartographic production was primarily driven by the Falklands War, the Iran-Iraq war, the Israeli invasion of Lebanon in 1982, major acts of terror against US Marines and citizens, and US troop action in Grenada and Panama.

1990s

In the 1990s, the Cartography Center—with the help of advancing computer technology—provided increasingly complex products, such as 3D terrain perspectives and animation, to support finished intelligence requirements. Dependence on film decreased as digital files could be printed directly, and as maps were disseminated more widely, customer demand grew rapidly.

Improved computer graphics capabilities spurred greater sophistication and effectiveness in the use of color, symbolism, and design to convey intelligence stories, while the rise of geodata sources and Geographic Information Systems technology led to advancements in data classification, manipulation, and rendering.

During the 1990s, cartographic production was primarily driven by major humanitarian crises in Africa and Central America, the proliferation of WMDs, the rise of narcotics trafficking, the Middle East Peace Process, the Persian Gulf war, the breakup of the Communist Bloc, and US peacekeeping operations in Bosnia and Herzegovina.

2000s

With the new millennium, Cartography Center found itself at the center of a digital revolution. Hardcopy publications and briefing materials were no longer the priority as the emphasis shifted to electronic briefings and dissemination of finished intelligence.

As Agency products continued to exploit technological breakthroughs, cartographers constantly adapted workflow to make the best use of available software and new technologies for creating and disseminating products. The rise of global terrorism also pushed cartographers to try new avenues for portraying and conveying the complex phenomena for policymakers.

During the 2000s, cartographic production was primarily driven by natural disasters and pandemics; turmoil in Africa, the Middle East, and the former Yugoslavia; nuclear developments in Iran and North Korea; terrorism, especially the September 11, 2001 attacks, and the US operations in Afghanistan and Iraq that followed.

2010s
The past six years have witnessed a push toward modernization of cartography workflow and technology, especially toward dissemination on web and mobile platforms. For the most part, the Cartography Center has transitioned to the use of commercially available, off-the-shelf software and to scientific workstations, which handle software and large amounts of data more efficiently.

The Cartography Center has capitalized on the advent of US Government and open-source map data and tools, exploring and incorporating them as appropriate to improve efficiency and help visualize big data.

During the first half of the 2010s, cartographic production was primarily driven by the Ebola virus and natural disasters resulting in humanitarian crises, the rise of the Arab Spring, the Russian invasion of Crimea, and the continued spread of terrorism and the self-proclaimed Islamic State of Iraq and the Levant. (Link: https://www.cia.gov/news-information/featured-story-archive/2016-featured-story-archive/mapmakers-craft.html)

A Brief History of Basic Intelligence and The World Factbook

The Intelligence Cycle is the process by which information is acquired, converted into intelligence, and made available to policymakers. Information is raw data from any source, data that may be fragmentary, contradictory, unreliable, ambiguous, deceptive, or wrong. Intelligence is information that has been collected, integrated, evaluated, analyzed, and interpreted. Finished intelligence is the final product of the Intelligence Cycle ready to be delivered to the policymaker.

The three types of finished intelligence are: basic, current, and estimative. Basic intelligence provides the fundamental and factual reference material on a country or issue. Current intelligence reports on new developments. Estimative intelligence judges probable outcomes. The three are mutually supportive: basic intelligence is the foundation on which the other two are constructed; current intelligence continually updates the inventory of knowledge; and estimative intelligence revises overall interpretations of country and issue prospects for guidance of basic and current intelligence. The World Factbook, The President's Daily Brief, and the National Intelligence Estimates are examples of the three types of finished intelligence.

The United States has carried on foreign intelligence activities since the days of George Washington but only since World War II have they been coordinated on a government-wide basis. Three programs have highlighted the development of coordinated basic intelligence since that time: (1) the Joint Army Navy Intelligence Studies (JANIS), (2) the National Intelligence Survey (NIS), and (3) The World Factbook.

During World War II, intelligence consumers realized that the production of basic intelligence by different components of the US Government resulted in a great duplication of effort and conflicting information. The Japanese attack on Pearl Harbor in 1941 brought home to leaders in Congress and the executive branch the need for integrating departmental reports to national policymakers. Detailed and coordinated information was needed not only on such major powers

as Germany and Japan, but also on places of little previous interest. In the Pacific Theater, for example, the Navy and Marines had to launch amphibious operations against many islands about which information was unconfirmed or nonexistent. Intelligence authorities resolved that the United States should never again be caught unprepared.

In 1943, Gen. George B. Strong (G-2), Adm. H. C. Train (Office of Naval Intelligence - ONI), and Gen. William J. Donovan (Director of the Office of Strategic Services - OSS) decided that a joint effort should be initiated. A steering committee was appointed on 27 April 1943 that recommended the formation of a Joint Intelligence Study Publishing Board to assemble, edit, coordinate, and publish the Joint Army Navy Intelligence Studies (JANIS). JANIS was the first interdepartmental basic intelligence program to fulfill the needs of the US Government for an authoritative and coordinated appraisal of strategic basic intelligence. Between April 1943 and July 1947, the board published 34 JANIS studies. JANIS performed well in the war effort, and numerous letters of commendation were received, including a statement from Adm. Forrest Sherman, Chief of Staff, Pacific Ocean Areas, which said, "JANIS has become the indispensable reference work for the shore-based planners."

The need for more comprehensive basic intelligence in the postwar world was well expressed in 1946 by George S. Pettee, a noted author on national security. He wrote in The Future of American Secret Intelligence (Infantry Journal Press, 1946, page 46) that world leadership in peace requires even more elaborate intelligence than in war.

The Central Intelligence Agency was established on 26 July 1947 and officially began operating on 18 September 1947. Effective 1 October 1947, the Director of Central Intelligence assumed operational responsibility for JANIS. On 13 January 1948, the National Security Council issued Intelligence Directive (NSCID) No. 3, which authorized the National Intelligence Survey (NIS) program as a peacetime replacement for the wartime JANIS program. Before adequate NIS country sections could be produced, government agencies had to develop more comprehensive gazetteers and better maps. The US Board on Geographic Names (BGN) compiled the names; the Department of the Interior produced the gazetteers; and CIA produced the maps.

The Hoover Commission's Clark Committee, set up in 1954 to study the structure and administration of the CIA, reported to Congress in 1955 that: "The National Intelligence Survey is an invaluable publication which provides the essential elements of basic intelligence on all areas of the world. There will always be a continuing requirement for keeping the Survey up-to-date." The Factbook was created as an annual summary and update to the encyclopedic NIS studies. The first classified Factbook was published in August 1962, and the first unclassified version was published in June 1971. The NIS program was terminated in 1973 except for the Factbook, map, and gazetteer components. The 1975 Factbook was the first to be made available to the public with sales through the US Government Printing Office (GPO). The Factbook was first made available on the Internet in June 1997. The year 2014 marks the 67th anniversary of the establishment of the Central Intelligence Agency and the 71st year of continuous basic intelligence support to the US Government by The World Factbook and its two predecessor programs.

The Evolution of The World Factbook

National Basic Intelligence Factbook produced semiannually until 1980. Country entries include sections on Land, Water, People, Government, Economy, Communications, and Defense Forces.

1981 Publication becomes an annual product and is renamed The World Factbook. A total of 165 nations are covered on 225 pages.

1983 Appendices (Conversion Factors, International Organizations) first introduced.

1984 Appendices expanded; now include: A. The United Nations, B. Selected United Nations Organizations, C. Selected International Organizations, D. Country Membership in Selected Organizations, E. Conversion Factors.

1987 A new Geography section replaces the former separate Land and Water sections. UN Organizations and Selected International Organizations appendices merged into a new International Organizations appendix. First multi-color-cover Factbook.

1988 More than 40 new geographic entities added to provide complete world coverage without overlap or omission. Among the new entities are Antarctica, oceans (Arctic, Atlantic, Indian, Pacific), and the World. The front-of-the-book explanatory introduction expanded and retitled to Notes, Definitions, and Abbreviations. Two new Appendices added: Weights and Measures (in place of Conversion Factors) and a Cross-Reference List of Geographic Names. Factbook size reaches 300 pages.

1989 Economy section completely revised and now includes an Overview briefly describing a country's economy. New entries added under People, Government, and Communications.

1990 The Government section revised and considerably expanded with new entries.

1991 A new International Organizations and Groups appendix added. Factbook size reaches 405 pages.

1992 Twenty new successor state entries replace those of the Soviet Union and Yugoslavia. New countries are respectively: Armenia, Azerbaijan, Belarus, Estonia, Georgia, Kazakhstan, Kyrgyzstan, Latvia, Lithuania, Moldova, Russia, Tajikistan, Turkmenistan, Ukraine, Uzbekistan; and Bosnia and Hercegovina, Croatia, Macedonia, Serbia and Montenegro, Slovenia. Number of nations in the Factbook rises to 188.

1993 Czechoslovakia's split necessitates new Czech Republic and Slovakia entries. New Eritrea entry added after it secedes from Ethiopia. Substantial enhancements made to Geography section.

1994 Two new appendices address Selected International Environmental Agreements. The gross domestic product (GDP) of most developing countries changed to a purchasing power parity (PPP) basis rather than an exchange rate basis. Factbook size up to 512 pages.

1995 The GDP of all countries now presented on a PPP basis. New appendix lists estimates of GDP on an exchange rate basis. Communications category split; Railroads, Highways, Inland waterways, Pipelines, Merchant marine, and Airports entries now make up a new Transportation category. The World Factbook is first produced on CD-ROM.

1996 Maps accompanying each entry now present more detail. Flags also introduced for nearly all entities. Various new entries appear under Geography and Communications. Factbook abbreviations consolidated into a new Appendix A. Two new appendices present a Cross-Reference List of Country Data Codes and a Cross-Reference List of Hydrogeographic Data Codes. Geographic coordinates added to Appendix H, Cross-Reference List of Geographic Names. Factbook size expands by 95 pages in one year to reach 652.

1997 The World Factbook introduced onto the Internet. A special printed edition prepared for the CIA's 50th anniversary. A schema or Guide to Country Profiles introduced. New color maps and flags now accompany each country profile. Category headings distinguished by shaded backgrounds. Number of categories expanded to nine with the addition of an Introduction (for only a few countries) and Transnational Issues (which includes Disputes-international and Illicit drugs).

1998 The Introduction category with two entries, Current issues and Historical perspective, expanded to more countries. Last year for the production of CD-ROM versions of the Factbook.

1999 Historical perspective and Current issues entries in the Introduction category combined into a new Background statement. Several new Economy entries introduced. A new physical map of the world added to the back-of-the-book reference maps.

2000 A new "country profile" added on the Southern Ocean. The Background statements dramatically expanded to over 200 countries and possessions. A number of new Communications entries added.

2001 Background entries completed for all 267 entities in the Factbook. Several new HIV/AIDS entries introduced under the People category. Revision begun on individual country maps to include elevation extremes and a partial geographic grid. Weights and Measures appendix deleted.

2002 New entry on Distribution of Family income - Gini index added. Revision of individual country maps continued (process still ongoing).

2003 In the Economy category, petroleum entries added for oil production, consumption, exports, imports, and proved reserves, as well as natural gas proved reserves.

2004 Bi-weekly updates launched on The World Factbook website. Additional petroleum entries included for natural gas production, consumption, exports, and imports. In the Transportation category, under Merchant marine, subfields added for foreign-owned vessels and those registered in other countries. Descriptions of the many forms of government mentioned in the Factbook incorporated into the Definitions and Notes.

2005 In the People category, a Major infectious diseases field added for countries deemed to pose a higher risk for travelers. In the Economy category, entries included for Current account balance, Investment, Public debt, and Reserves of foreign exchange and gold. The Transnational issues category expanded to include Refugees and internally displaced persons. Size of the printed Factbook reaches 702 pages.

2006 In the Economy category, national GDP figures now presented at Official Exchange Rates (OER) in addition to GDP at purchasing power parity (PPP). Entries in the Transportation section reordered; Highways changed to Roadways, and Ports and harbors to Ports and terminals.

2007 In the Government category, the Capital entry significantly expanded with up to four subfields, including new information having to do with time. The subfields consist of the name of the capital itself, its geographic coordinates, the time difference at the capital from coordinated universal time (UTC), and, if applicable, information on daylight saving time (DST). Where appropriate, a special note is added to highlight those countries with multiple time zones. A Trafficking in persons entry added to the Transnational issues category. A new appendix, Weights and Measures, (re)introduced to the online version of the Factbook.

2008 In the Geography category, two fields focus on the increasingly vital resource of water: Total renewable water resources and Freshwater withdrawal. In the Economy category, three fields added for: Stock of direct foreign investment - at home, Stock of direct foreign investment - abroad, and Market value of publicly traded shares. Concise descriptions of all major religions included in the Definitions and Notes. Responsibility for printing of The World Factbook turned over to the Government Printing Office.

2009 The online Factbook site completely redesigned with many new features. In the People category, two new fields provide information on education in terms of opportunity and resources: School Life Expectancy and Education expenditures. Additionally, the Urbanization entry expanded to include all countries. In the Economy category, five fields added: Central bank discount rate, Commercial bank prime lending rate, Stock of narrow money, Stock of broad money, and Stock of domestic credit.

2010 Weekly updates inaugurated on the The World Factbook website. The dissolution of the Netherlands Antilles results in two new listings: Curacao and Sint Maarten. In the Communications category, a Broadcast media field replaces the former Radio broadcast stations and TV broadcast stations entries. In the Geography section, under Natural hazards, a Volcanism subfield added for countries with historically active volcanoes. In the Government category, a new National anthems field introduced. Concise descriptions of all major Legal systems incorporated into the Definitions and Notes. In order to facilitate comparisons over time, dozens of the entries in the Economy category expanded to include two (and in some cases three) years' worth of data.

2011 The People section expanded to People and Society, incorporating ten new fields. The Economy category added Taxes and other revenues and Budget surplus (+) or deficit (-), while the Government section introduced International law organization participation and National

symbols. A new African nation, South Sudan, brings the total number of countries in The World Factbook to 195.

2012 A new Energy category introduced with 23 energy-related fields. Several distinctive features added to The World Factbook website: 1) playable audio files in the Government section for the National Anthems entry, 2) online graphics in the form of a Population Pyramid feature in the People and Society category's Age Structure field, and 3) a Users Guide enabling visitors to navigate the Factbook more easily and efficiently. A new and distinctive Map of the World Oceans highlights an expanded array of regional and country maps. Size of the printed Factbook's 50th anniversary edition reaches 847 pages.

2013 In the People and Society section five fields introduced: Demographic profile, Mother's mean age at first birth, Contraceptive prevalence rate, Dependency ratios, and Child labor - children ages 5-14. In the Transnational Issues category, a new stateless persons subfield embedded under the Refugees and internally displaced persons entry. In the Economy section two fields added: GDP - composition by end use and Gross national saving. In the Government category the Judicial branch entry revised and expanded to include three new subfields: highest court(s), judge selection and term of office, and subordinate courts.

2014 In the Transportation category, the Ports and terminals field substantially expanded with subfields for major seaport(s), river port(s), lake port(s), oil/gas terminal(s), LNG terminal(s), dry bulk cargo port(s), container port(s), and cruise/ferry port(s). In the Geography section, the Land boundaries entry revised for all countries, including the total country border length as well as the border lengths for all neighboring countries. In the Government category, the first part of the Legislative branch field thoroughly revised, expanded, and updated for all countries under a new description heading. This subentry includes the legislative structure, the formal name(s), the number of legislative seats, the types of voting constituencies and voting systems, and the member term of office.

2015 In the Government category, the first part of the Legislative branch field thoroughly revised, expanded, and updated for all countries under a new description heading. This subentry includes the legislative structure, the formal name(s), the number of legislative seats, the types of voting constituencies and voting systems, and the member term of office. Area Comparison Maps introduced online for about half of the world’s countries.

2016 In the Government section for all countries, a new “Citizenship” field added to describe policies related to the acquisition of citizenship and to the recognition of dual citizenship. Also, under the “Country name” entry, etymologies (historical origins) added to explain how countries acquired their names.

A brief Summary of the 2015 Factbook Worldview

Globally, the 20th century was marked by: (a) two devastating world wars; (b) the Great Depression of the 1930s; (c) the end of vast colonial empires; (d) rapid advances in science and technology, from the first airplane flight at Kitty Hawk, North Carolina (US) to the landing on the moon; (e) the Cold War between the Western alliance and the Warsaw Pact nations; (f) a

sharp rise in living standards in North America, Europe, and Japan; (g) increased concerns about environmental degradation including deforestation, energy and water shortages, declining biological diversity, and air pollution; (h) the onset of the AIDS epidemic; and (i) the ultimate emergence of the US as the only world superpower. The planet's population continues to explode: from 1 billion in 1820 to 2 billion in 1930, 3 billion in 1960, 4 billion in 1974, 5 billion in 1987, 6 billion in 1999, and 7 billion in 2012. For the 21st century, the continued exponential growth in science and technology raises both hopes (e.g., advances in medicine and agriculture) and fears (e.g., development of even more lethal weapons of war).

Geographic overview:

The surface of the earth is approximately 70.9% water and 29.1% land. The former portion is divided into large water bodies termed oceans. The World Factbook recognizes and describes five oceans, which are in decreasing order of size: the Pacific Ocean, Atlantic Ocean, Indian Ocean, Southern Ocean, and Arctic Ocean.

The land portion is generally divided into several, large, discrete landmasses termed continents. Depending on the convention used, the number of continents can vary from five to seven. The most common classification recognizes seven, which are (from largest to smallest): Asia, Africa, North America, South America, Antarctica, Europe, and Australia. Asia and Europe are sometimes lumped together into a Eurasian continent resulting in six continents. Alternatively, North and South America are sometimes grouped as simply the Americas, resulting in a continent total of six (or five, if the Eurasia designation is used).

North America is commonly understood to include the island of Greenland, the isles of the Caribbean, and to extend south all the way to the Isthmus of Panama. The easternmost extent of Europe is generally defined as being the Ural Mountains and the Ural River; on the southeast the Caspian Sea; and on the south the Caucasus Mountains, the Black Sea, and the Mediterranean. Portions of Azerbaijan, Georgia, Kazakhstan, Russia, and Turkey fall within both Europe and Asia, but in every instance the larger section is in Asia. These countries are considered part of both continents. Armenia and Cyprus, which lie completely in Western Asia, are geopolitically European countries.

Asia usually incorporates all the islands of the Philippines, Malaysia, and Indonesia. The islands of the Pacific are often lumped with Australia into a "land mass" termed Oceania or Australasia. Africa's northeast extremity is frequently delimited at the Isthmus of Suez, but for geopolitical purposes, the Egyptian Sinai Peninsula is often included as part of Africa.

Although the above groupings are the most common, different continental dispositions are recognized or taught in certain parts of the world, with some arrangements more heavily based on cultural spheres rather than physical geographic considerations.

Based on the seven-continent model, and grouping islands with adjacent continents, Africa has the most countries with 54. Europe contains 49 countries and Asia 48, but these two continents share five countries: Azerbaijan, Georgia, Kazakhstan, Russia, and Turkey. North America consists of 23 sovereign states, Oceania has 14, and South America 12.

Countries by continent:

Africa (54): Algeria, Angola, Benin, Botswana, Burkina Faso, Burundi, Cabo Verde, Cameroon, Central African Republic, Chad, Comoros, Democratic Republic of the Congo, Republic of the Congo, Cote d'Ivoire, Djibouti, Egypt, Equatorial Guinea, Eritrea, Ethiopia, Gabon, The Gambia, Ghana, Guinea, Guinea-Bissau, Kenya, Lesotho, Liberia, Libya, Madagascar, Malawi, Mali, Mauritania, Mauritius, Morocco, Mozambique, Namibia, Niger, Nigeria, Rwanda, Sao Tome and Principe, Senegal, Seychelles, Sierra Leone, Somalia, South Africa, South Sudan, Sudan, Swaziland, Tanzania, Togo, Tunisia, Uganda, Zambia, Zimbabwe

Europe (49): Albania, Andorra, Austria, Azerbaijan*, Belarus, Belgium, Bosnia and Herzegovina, Bulgaria, Croatia, Czech Republic, Denmark, Estonia, Finland, France, Georgia*, Germany, Greece, Holy See (Vatican City), Hungary, Iceland, Ireland, Italy, Kazakhstan*, Kosovo, Latvia, Liechtenstein, Lithuania, Luxembourg, Macedonia, Malta, Moldova, Monaco, Montenegro, Netherlands, Norway, Poland, Portugal, Romania, Russia*, San Marino, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey*, Ukraine, United Kingdom (* indicates part of the country is also in Asia)

Asia (48): Afghanistan, Armenia, Azerbaijan*, Bahrain, Bangladesh, Bhutan, Brunei, Burma, Cambodia, China, Cyprus, Georgia*, India, Indonesia, Iran, Iraq, Israel, Japan, Jordan, Kazakhstan*, North Korea, South Korea, Kuwait, Kyrgyzstan, Laos, Lebanon, Malaysia, Maldives, Mongolia, Nepal, Oman, Pakistan, Philippines, Qatar, Russia*, Saudi Arabia, Singapore, Sri Lanka, Syria, Tajikistan, Thailand, Timor-Leste, Turkey*, Turkmenistan, United Arab Emirates, Uzbekistan, Vietnam, Yemen (* indicates part of the country is also in Europe)

North America (23): Antigua and Barbuda, The Bahamas, Barbados, Belize, Canada, Costa Rica, Cuba, Dominica, Dominican Republic, El Salvador, Grenada, Guatemala, Haiti, Honduras, Jamaica, Mexico, Nicaragua, Panama, Saint Kitts and Nevis, Saint Lucia, Saint Vincent and the Grenadines, Trinidad and Tobago, United States

Oceania (14): Australia, Fiji, Kiribati, Marshall Islands, Federated States of Micronesia, Nauru, New Zealand, Palau, Papua New Guinea, Samoa, Solomon Islands, Tonga, Tuvalu, Vanuatu

South America (12): Argentina, Bolivia, Brazil, Chile, Colombia, Ecuador, Guyana, Paraguay, Peru, Suriname, Uruguay, Venezuela

Map references:

Area: total: 510.072 million sq km

Land: 148.94 million sq km

Water: 361.132 million sq km

Note: 70.9% of the world's surface is water, 29.1% is land

Top fifteen World Factbook entities ranked by size: Pacific Ocean 155.557 million sq km; Atlantic Ocean 76.762 million sq km; Indian Ocean 68.556 million sq km; Southern Ocean 20.327 million sq km; Russia 17,098,242 sq km; Arctic Ocean 14.056 million sq km; Antarctica 14 million sq km; Canada 9,984,670 sq km; United States 9,826,675 sq km; China 9,596,960 sq km; Brazil 8,515,770 sq km; Australia 7,741,220 sq km; European Union 4,324,782 sq km; India 3,287,263 sq km; Argentina 2,780,400 sq km

Top ten largest water bodies: Pacific Ocean 155.557 million sq km; Atlantic Ocean 76.762 million sq km; Indian Ocean 68.556 million sq km; Southern Ocean 20.327 million sq km; Arctic Ocean 14.056 million sq km; Coral Sea 4,184,100 sq km; South China Sea 3,595,900 sq km; Caribbean Sea 2.834 million sq km; Bering Sea 2.52 million sq km; Mediterranean Sea 2.469 million sq km

Top ten largest landmasses: Asia 44,568,500 sq km; Africa 30.065 million sq km; North America 24.473 million sq km; South America 17.819 million sq km; Antarctica 14 million sq km; Europe 9.948 million sq km; Australia 7,741,220 sq km; Greenland 2,166,086 sq km; New Guinea 785,753 sq km; Borneo 751,929 sq km

Top ten largest islands: Greenland 2,166,086 sq km; New Guinea (Indonesia, Papua New Guinea) 785,753 sq km; Borneo (Brunei, Indonesia, Malaysia) 751,929 sq km; Madagascar 587,713 sq km; Baffin Island (Canada) 507,451 sq km; Sumatra (Indonesia) 472,784 sq km; Honshu (Japan) 227,963 sq km; Victoria Island (Canada) 217,291 sq km; Great Britain (United Kingdom) 209,331 sq km; Ellesmere Island (Canada) 196,236 sq km

Ten smallest independent countries: Holy See (Vatican City) 0.44 sq km; Monaco 2 sq km; Nauru 21 sq km; Tuvalu 26 sq km; San Marino 61 sq km; Liechtenstein 160 sq km; Marshall Islands 181 sq km; Saint Kitts and Nevis 261 sq km; Maldives 298 sq km; Malta 316 sq km

Land boundaries: The land boundaries in the world total 251,060 km (not counting shared boundaries twice); two nations, China and Russia, each border 14 other countries

Note: 46 nations and other areas are landlocked, these include: Afghanistan, Andorra, Armenia, Austria, Azerbaijan, Belarus, Bhutan, Bolivia, Botswana, Burkina Faso, Burundi, Central African Republic, Chad, Czech Republic, Ethiopia, Holy See (Vatican City), Hungary, Kazakhstan, Kosovo, Kyrgyzstan, Laos, Lesotho, Liechtenstein, Luxembourg, Macedonia, Malawi, Mali, Moldova, Mongolia, Nepal, Niger, Paraguay, Rwanda, San Marino, Serbia, Slovakia, South Sudan, Swaziland, Switzerland, Tajikistan, Turkmenistan, Uganda, Uzbekistan, West Bank, Zambia, Zimbabwe; two of these, Liechtenstein and Uzbekistan, are doubly landlocked

Coastline: 356,000 km: Note: 95 nations and other entities are islands that border no other countries, they include: American Samoa, Anguilla, Antigua and Barbuda, Aruba, Ashmore and Cartier Islands, The Bahamas, Bahrain, Baker Island, Barbados, Bermuda, Bouvet Island, British Indian Ocean Territory, British Virgin Islands, Cabo Verde, Cayman Islands, Christmas Island, Clipperton Island, Cocos (Keeling) Islands, Comoros, Cook Islands, Coral Sea Islands, Cuba, Curacao, Cyprus, Dominica, Falkland Islands (Islas Malvinas), Faroe Islands, Fiji, French Polynesia, French Southern and Antarctic Lands, Greenland, Grenada, Guam, Guernsey, Heard Island and McDonald Islands, Howland Island, Iceland, Isle of Man, Jamaica, Jan Mayen, Japan, Jarvis Island, Jersey, Johnston Atoll, Kingman Reef, Kiribati, Madagascar, Maldives, Malta, Marshall Islands, Mauritius, Mayotte, Federated States of Micronesia, Midway Islands, Montserrat, Nauru, Navassa Island, New Caledonia, New Zealand, Niue, Norfolk Island, Northern Mariana Islands, Palau, Palmyra Atoll, Paracel Islands, Philippines, Pitcairn Islands, Puerto Rico, Saint Barthelemy, Saint Helena, Saint Kitts and Nevis, Saint Lucia, Saint Pierre and Miquelon, Saint Vincent and the Grenadines, Samoa, Sao Tome and Principe, Seychelles, Singapore, Sint Maarten, Solomon Islands, South Georgia and the South Sandwich Islands, Spratly Islands, Sri Lanka, Svalbard, Taiwan, Tokelau, Tonga, Trinidad and Tobago, Turks and Caicos Islands, Tuvalu, Vanuatu, Virgin Islands, Wake Island, Wallis and Futuna

Maritime claims: A variety of situations exist, but in general, most countries make the following claims measured from the mean low-tide baseline as described in the 1982 UN Convention on the Law of the Sea: territorial sea - 12 nm, contiguous zone - 24 nm, and exclusive economic zone - 200 nm; additional zones provide for exploitation of continental shelf resources and an exclusive fishing zone; boundary situations with neighboring states prevent many countries from extending their fishing or economic zones to a full 200 nm

Climate: a wide equatorial band of hot and humid tropical climates, bordered north and south by subtropical temperate zones that separate two large areas of cold and dry polar climates

Terrain: the greatest ocean depth is the Mariana Trench at -10,924 m in the Pacific Ocean

Elevation: mean elevation: 840 m. Elevation extremes: lowest point: Bentley Subglacial Trench (Antarctica) -2,555 m (in the oceanic realm, Challenger Deep in the Mariana Trench is the lowest point, lying -10,924 m below the surface of the Pacific Ocean)

Highest point: Mount Everest 8,850 m

Top ten highest mountains (measured from sea level): Mount Everest (China-Nepal) 8,850 m; K2 (Pakistan) 8,611 m; Kanchenjunga (India-Nepal) 8,598 m; Lhotse (Nepal) 8,516 m; Makalu (China-Nepal) 8,463 m; Cho Oyu (China-Nepal) 8,201 m; Dhaulagiri (Nepal) 8,167 m; Manaslu (Nepal) 8,163 m; Nanga Parbat (Pakistan) 8,125 m; Anapurna (Nepal) 8,091 m

Note: Mauna Kea (United States) is the world's tallest mountain as measured from base to summit; the peak of this volcanic colossus lies on the island of Hawaii, but its base begins more

than 70 km offshore and at a depth of about 6,000 m; total height estimates range from 9,966 m to 10,203 m

highest point on each continent: Asia - Mount Everest (China-Nepal) 8,850 m; South America - Cerro Aconcagua (Argentina) 6,960 m; North America - Denali (Mount McKinley) (United States) 6,190 m; Africa - Kilimanjaro (Tanzania) 5,895 m; Europe - El'brus (Russia) 5,633 m; Antarctica - Vinson Massif 4,897 m; Australia - Mount Kosciuszko 2,229 m

Lowest point on each continent: Antarctica - Bentley Subglacial Trench -2,555 m; Asia - Dead Sea (Israel-Jordan) -408 m; Africa - Lac Assal (Djibouti) -155 m; South America - Laguna del Carbon (Argentina) -105 m; North America - Death Valley (United States) -86 m; Europe - Caspian Sea (Azerbaijan-Kazakhstan-Russia) -28 m; Australia - Lake Eyre -15 m

Natural resources: the rapid depletion of nonrenewable mineral resources, the depletion of forest areas and wetlands, the extinction of animal and plant species, and the deterioration in air and water quality (especially in some countries of Eastern Europe, the former USSR, and China) pose serious long-term problems that governments and peoples are only beginning to address

Irrigated land: 3,242,917 sq km (2012 est.)

Natural hazards: large areas subject to severe weather (tropical cyclones); natural disasters (earthquakes, landslides, tsunamis, volcanic eruptions)

Volcanism: volcanism is a fundamental driver and consequence of plate tectonics, the physical process reshaping the Earth's lithosphere; the world is home to more than 1,500 potentially active volcanoes, with over 500 of these having erupted in historical times; an estimated 500 million people live near these volcanoes; associated dangers include lava flows, lahars (mudflows), pyroclastic flows, ash clouds, ash fall, ballistic projectiles, gas emissions, landslides, earthquakes, and tsunamis; in the 1990s, the International Association of Volcanology and Chemistry of the Earth's Interior, created a list of 16 Decade Volcanoes worthy of special study because of their great potential for destruction: Avachinsky-Koryaksky (Russia), Colima (Mexico), Etna (Italy), Galeras (Colombia), Mauna Loa (United States), Merapi (Indonesia), Nyiragongo (Democratic Republic of the Congo), Rainier (United States), Sakurajima (Japan), Santa Maria (Guatemala), Santorini (Greece), Taal (Philippines), Teide (Spain), Ulawun (Papua New Guinea), Unzen (Japan), Vesuvius (Italy)

Environment - current issues: large areas subject to overpopulation, industrial disasters, pollution (air, water, acid rain, toxic substances), loss of vegetation (overgrazing, deforestation, desertification), loss of wildlife, soil degradation, soil depletion, erosion; global warming becoming a greater concern

WORLD Population: 7,323,187,457 (July 2016 est.)

Top ten most populous countries (in millions): China 1373.54; India 1266.88; United States 324.00; Indonesia 258.32; Brazil 205.82; Pakistan 202.00; Nigeria 186.05; Bangladesh 156.19; Russia 142.36; Japan 126.70

Tten least populous countries: Holy See (Vatican City) 1,000; Nauru 9,591; Tuvalu 10,959; Palau 21,347; Monaco 30,581; San Marino 33,285; Liechtenstein 37,937; Saint Kitts and Nevis 52,329; Marshall Islands 73,376; Dominica 73,757

Tten most densely populated countries (population per sq km): Monaco 15,291; Singapore 8,416; Holy See (Vatican City) 2,273; Bahrain 1,814; Maldives 1,319; Malta 1,314; Bangladesh 1,200; Barbados 678; Mauritius 664; Lebanon 610

Tten least densely populated countries (population per sq km): Mongolia 1.95; Namibia 2.96; Australia 2.99; Iceland 3.35; Mauritania 3.57; Libya 3.72; Guyana 3.74; Suriname 3.76; Canada 3.89; Botswana 3.90

Languages: Mandarin Chinese 12.2%, Spanish 5.8%, English 4.6%, Arabic 3.6%, Hindi 3.6%, Portuguese 2.8%, Bengali 2.6%, Russian 2.3%, Japanese 1.7%, Punjabi, Western 1.2%, Javanese 1.2% (2016 est.)

Religions: Christian 31.4%, Muslim 23.2%, Hindu 15%, Buddhist 7.1%, folk religions 5.9%, Jewish 0.2%, other 0.8%, unaffiliated 16.4% (2010 est.)

Age structure: 0-14 years: 25.44% (male 963,981,944/female 898,974,458)

15-24 years: 16.16% (male 611,311,930/female 572,229,547)

25-54 years: 41.12% (male 1,522,999,578/female 1,488,011,505)

55-64 years: 8.6% (male 307,262,939/female 322,668,546)

65 years and over: 8.68% (male 283,540,918/female 352,206,092) (2016 est.)

Dependency ratios: total dependency ratio: 52.3%; youth dependency ratio: 39.7%; elderly dependency ratio: 12.6%; potential support ratio: 7.9% (2015 est.)

Median age: total: 30.1 years; male: 29.4 years; female: 30.9 years (2016 est.)

Population growth rate: 1.06%

Birth rate: 18.5 births/1,000 population

Death rate: 7.8 deaths/1,000 population

Urbanization: urban population: 54% of total population (2015): rate of urbanization: 2.05% annual rate of change (2010-15 est.)

Ten largest urban agglomerations: Tokyo (Japan) - 38,001,000; New Delhi (India) - 25,703,000; Shanghai (China) - 23,741,000; Sao Paulo (Brazil) - 21,066,000; Mumbai (India) - 21,043,000; Mexico City (Mexico) - 20,999,000; Beijing (China) - 20,384,000; Osaka (Japan) - 20,238,000; Cairo (Egypt) - 18,772,000; New York-Newark (US) - 18,593,000 (2015)

Sex ratio: at birth: 1.03 male(s)/female; 0-14 years: 1.07 male(s)/female; 15-24 years: 1.07 male(s)/female; 25-54 years: 1.02 male(s)/female; 55-64 years: 0.95 male(s)/female; 65 years and over: 0.805 male(s)/female; total population: 1.015 male(s)/female (2016 est.)

Maternal mortality rate: 216 deaths/100,000 live births (2015 est.).

Infant mortality rate: total: 34.1 deaths/1,000 live births; male: 36.1 deaths/1,000 live births; female: 32.1 deaths/1,000 live births (2016 est.).

Life expectancy at birth: total population: 69 years; male: 67 years; female: 71.1 years (2016 est.).

Total fertility rate: 2.42 children born/woman (2016 est.).

Legal system: the legal systems of nearly all countries are generally modeled upon elements of five main types: civil law (including French law, the Napoleonic Code, Roman law, Roman-Dutch law, and Spanish law); common law (including English and US law); customary law; mixed or pluralistic law; and religious law (including Islamic law); an additional type of legal system - international law - governs the conduct of independent nations in their relationships with one another.

International law organization participation: all members of the UN are parties to the statute that established the International Court of Justice (ICJ) or World Court; 61 countries have accepted jurisdiction of the ICJ as compulsory with reservations and 11 countries have accepted ICJ jurisdiction as compulsory without reservations; states parties to the Rome Statute of the International Criminal Court (ICCt) are those countries that have ratified or acceded to the Rome Statute, the treaty that established the Court; a total of 123 (effective 2 January 2015) countries have accepted jurisdiction of the ICCt.

Economy - overview: The international financial crisis of 2008-09 led to the first downturn in global output since 1946 and presented the world with a major new challenge: determining what mix of fiscal and monetary policies to follow to restore growth and jobs, while keeping inflation and debt under control. Financial stabilization and stimulus programs that started in 2009-11, combined with lower tax revenues in 2009-10, required most countries to run large budget deficits. Treasuries issued new public debt - totaling $9.1 trillion since 2008 - to pay for the additional expenditures. To keep interest rates low, most central banks monetized that debt, injecting large sums of money into their economies - between December 2008 and December 2013 the global money supply increased by more than 35%. Governments are now faced with the

difficult task of spurring current growth and employment without saddling their economies with so much debt that they sacrifice long-term growth and financial stability. When economic activity picks up, central banks will confront the difficult task of containing inflation without raising interest rates so high they snuff out further growth.

Fiscal and monetary data for 2013 are currently available for 180 countries, which together account for 98.5% of world GDP. Of the 180 countries, 82 pursued unequivocally expansionary policies, boosting government spending while also expanding their money supply relatively rapidly - faster than the world average of 3.1%; 28 followed restrictive fiscal and monetary policies, reducing government spending and holding money growth to less than the 3.1% average; and the remaining 70 followed a mix of counterbalancing fiscal and monetary policies, either reducing government spending while accelerating money growth, or boosting spending while curtailing money growth.

In 2013, for many countries the drive for fiscal austerity that began in 2011 abated. While 5 out of 6 countries slowed spending in 2012, only 1 in 2 countries slowed spending in 2013. About 1 in 3 countries actually lowered the level of their expenditures. The global growth rate for government expenditures increased from 1.6% in 2012 to 5.1% in 2013, after falling from a 10.1% growth rate in 2011. On the other hand, nearly 2 out of 3 central banks tightened monetary policy in 2013, decelerating the rate of growth of their money supply, compared with only 1 out of 3 in 2012. Roughly 1 of 4 central banks actually withdrew money from circulation, an increase from 1 out of 7 in 2012. Growth of the global money supply, as measured by the narrowly defined M1, slowed from 8.7% in 2009 and 10.4% in 2010 to 5.2% in 2011, 4.6% in 2012, and 3.1% in 2013. Several notable shifts occurred in 2013. By cutting government expenditures and expanding money supplies, the US and Canada moved against the trend in the rest of the world. France reversed course completely. Rather than reducing expenditures and money as it had in 2012, it expanded both. Germany reversed its fiscal policy, sharply expanding federal spending, while continuing to grow the money supply. South Korea shifted monetary policy into high gear, while maintaining a strongly expansionary fiscal policy. Japan, however, continued to pursue austere fiscal and monetary policies.

Austere economic policies have significantly affected economic performance. The global budget deficit narrowed to roughly $2.7 trillion in 2012 and $2.1 trillion in 2013, or 3.8% and 2.5% of World GDP, respectively. But growth of the world economy slipped from 5.1% in 2010 and 3.7% in 2011, to just 3.1% in 2012, and 2.9% in 2013.

Countries with expansionary fiscal and monetary policies achieved significantly higher rates of growth, higher growth of tax revenues, and greater success reducing the public debt burden than those countries that chose contractionary policies. In 2013, the 82 countries that followed a pro-growth approach achieved a median GDP growth rate of 4.7%, compared to 1.7% for the 28 countries with restrictive fiscal and monetary policies, a difference of 3 percentage points. Among the 82, China grew 7.7%, Philippines 6.8%, Malaysia 4.7%, Pakistan and Saudi Arabia 3.6%, Argentina 3.5%, South Korea 2.8%, and Russia 1.3%, while among the 28, Brazil grew 2.3%, Japan 2.0%, South Africa 2.0%, Netherlands -0.8%, Croatia -1.0%, Iran -1.5%, Portugal -1.8%, Greece -3.8%, and Cyprus -8.7%.

Faster GDP growth and lower unemployment rates translated into increased tax revenues and a less cumbersome debt burden. Revenues for the 82 expansionary countries grew at a median rate of 10.7%, whereas tax revenues fell at a median rate of 6.8% for the 28 countries that chose austere economic policies. Budget balances improved for about three-quarters of the 28, but, for most, debt grew faster than GDP, and the median level of their public debt as a share of GDP increased 9.1 percentage points, to 59.2%. On the other hand, budget balances deteriorated for most of the 82 pro-growth countries, but GDP growth outpaced increases in debt, and the median level of public debt as a share of GDP increased just 1.9%, to 39.8%.

The world recession has suppressed inflation rates - world inflation declined 1.0 percentage point in 2012 to about 4.1% and 0.2 percentage point to 3.9% in 2013. In 2013 the median inflation rate for the 82 pro-growth countries was 1.3 percentage points higher than that for the countries that followed more austere fiscal and monetary policies. Overall, the latter countries also improved their current account balances by shedding imports; as a result, current account balances deteriorated for most of the countries that pursued pro-growth policies. Slow growth of world income continued to hold import demand in check and crude oil prices fell. Consequently, the dollar value of world trade grew just 1.3% in 2013.

Beyond the current global slowdown, the world faces several long standing economic challenges. The addition of 80 million people each year to an already overcrowded globe is exacerbating the problems of pollution, waste-disposal, epidemics, water-shortages, famine, over-fishing of oceans, deforestation, desertification, and depletion of non-renewable resources. The nation-state, as a bedrock economic-political institution, is steadily losing control over international flows of people, goods, services, funds, and technology. The introduction of the euro as the common currency of much of Western Europe in January 1999, while paving the way for an integrated economic powerhouse, has created economic risks because the participating nations have varying income levels and growth rates, and hence, require a different mix of monetary and fiscal policies. Governments, especially in Western Europe, face the difficult political problem of channeling resources away from welfare programs in order to increase investment and strengthen incentives to seek employment. Because of their own internal problems and priorities, the industrialized countries are unable to devote sufficient resources to deal effectively with the poorer areas of the world, which, at least from an economic point of view, are becoming further marginalized. The terrorist attacks on the US on 11 September 2001 accentuated a growing risk to global prosperity - the diversion of resources away from capital investments to counter-terrorism programs.

Despite these vexing problems, the world economy also shows great promise. Technology has made possible further advances in a wide range of fields, from agriculture, to medicine, alternative energy, metallurgy, and transportation. Improved global communications have greatly reduced the costs of international trade, helping the world gain from the international division of labor, raise living standards, and reduce income disparities among nations. Much of the resilience of the world economy in the aftermath of the financial crisis resulted from government and central bank leaders around the globe working in concert to stem the financial onslaught, knowing well the lessons of past economic failures.

Industries: dominated by the onrush of technology, especially in computers, robotics, telecommunications, and medicines and medical equipment; most of these advances take place in OECD nations; only a small portion of non-OECD countries have succeeded in rapidly adjust.

Top ten - share of world trade: electrical machinery, including computers 14.8%; mineral fuels, including oil, coal, gas, and refined products 14.4%; nuclear reactors, boilers, and parts 14.2%; cars, trucks, and buses 8.9%; scientific and precision instruments 3.5%; plastics 3.4%; iron and steel 2.7%; organic chemicals 2.6%; pharmaceutical products 2.6%; diamonds, pearls, and precious stones 1.9% (2007 est.),

Internet users: 3.172 billion. Top ten countries by Internet usage (in millions): China 687.9; India 325.4; United States 239.6; Brazil 120.7; Japan 118.5; Russia 104.6; Nigeria 86.1; Germany 70.8; Mexico 69.9; United Kingdom 59 (July 2015 est.)

Top ten largest natural lakes (by surface area): Caspian Sea (Azerbaijan, Iran, Kazakhstan, Russia, Turkmenistan) 372,960 sq km; Lake Superior (Canada, United States) 82,414 sq km; Lake Victoria (Kenya, Tanzania, Uganda) 69,490 sq km; Lake Huron (Canada, United States) 59,596 sq km; Lake Michigan (United States) 57,441 sq km; Lake Tanganyika (Burundi, Democratic Republic of the Congo, Tanzania, Zambia) 32,890 sq km; Great Bear Lake (Canada) 31,800 sq km; Lake Baikal (Russia) 31,494 sq km; Lake Nyasa (Malawi, Mozambique, Tanzania) 30,044 sq km; Great Slave Lake (Canada) 28,400 sq km

Ports and terminals: top ten container ports as measured by Twenty-Foot Equivalent Units (TEUs) throughput: Shanghai (China) - 33,617,000; Singapore (Singapore) - 32,578,000; Shenzhen (China) - 23,278,000; Hong Kong (China) - 22,352,000; Busan (South Korea) - 17,611,882; Ningbo (China) - 17,326,800; Qingdao (China) - 15,520,000; Guangzhou (China) - 15,309,200; Dubai (UAE) - 13,600,000; - Tianjin (China) - 12,996,510 (2013)

Transportation - note: the International Maritime Bureau (IMB) reports that 2014 saw a continued decrease in global pirate activities declining 7% over 2013; in 2014, pirates attacked a total of 245 ships world-wide including hijacking 21 ships, capturing 442 seafarers, and killing 4; the Horn of Africa continued to see a drop in pirate activities with only 11 incidents in 2014 compared with 15 in 2013 and 236 in 2011; the decrease in successful pirate attacks off the Horn of Africa is due, in part, to more aggressive anti-piracy operations by international naval forces, the hardening of vessels, and the increased use of armed security teams aboard merchant ships; despite these preventative measures, the assessed risk remains high; attacks in the Straits of Malacca and South China Sea accounted for 55% of ships attacked in 2014; West African piracy is a growing threat accounting for 16% of all attacks in 2014; Nigerian pirates are very aggressive, operating as far as 200 nm offshore and linked with at least four hijackings that occurred in this area; attacks in South Asian waters remain at low levels although incidents have increased each year since 2010 reaching 34 in 2014; as of October 2015, there were 190 attacks worldwide with 15 hijackings in the Straits of Malacca/South China Sea region and West African waters

Military expenditures: 2.42% of GDP (2012), 2.51% of GDP (2011). 2.42% of GDP (2010).

Disputes - international: stretching over 250,000 km, the world's 325 international land boundaries separate 195 independent states and 71 dependencies, areas of special sovereignty, and other miscellaneous entities; ethnicity, culture, race, religion, and language have divided states into separate political entities as much as history, physical terrain, political fiat, or conquest, resulting in sometimes arbitrary and imposed boundaries; most maritime states have claimed limits that include territorial seas and exclusive economic zones; overlapping limits due to adjacent or opposite coasts create the potential for 430 bilateral maritime boundaries of which 209 have agreements that include contiguous and non-contiguous segments; boundary, borderland/resource, and territorial disputes vary in intensity from managed or dormant to violent or militarized; undemarcated, indefinite, porous, and unmanaged boundaries tend to encourage illegal cross-border activities, uncontrolled migration, and confrontation; territorial disputes may evolve from historical and/or cultural claims, or they may be brought on by resource competition; ethnic and cultural clashes continue to be responsible for much of the territorial fragmentation and internal displacement of the estimated 20.8 million people and cross-border displacements of approximately 12.1 million refugees and asylum seekers around the world as of mid-2013; over half a million refugees were repatriated during 2012; other sources of contention include access to water and mineral (especially hydrocarbon) resources, fisheries, and arable land; armed conflict prevails not so much between the uniformed armed forces of independent states as between stateless armed entities that detract from the sustenance and welfare of local populations, leaving the community of nations to cope with resultant refugees, hunger, disease, impoverishment, and environmental degradation

Refugees and internally displaced persons: the UN High Commissioner for Refugees (UNHCR) estimated that as of the end of 2015 there were 65.3 million people forcibly displaced worldwide, the highest level ever recorded; this includes 21.3 million refugees, 3.2 million asylum seekers, and 40.8 million conflict IDPs; the UNHCR estimates there are currently at least 10 million stateless persons (2016)

Trafficking in persons: current situation: the International Labour Organization conservatively estimated that 20.9 million people in 2012 were victims of forced labor, representing the full range of human trafficking (also referred to as “modern-day slavery”) for labor and sexual exploitation; about one-third of reported cases involved crossing international borders, which is often associated with sexual exploitation; trafficking in persons is most prevalent in southeastern Europe, Eurasia, and Africa and least frequent in EU member states, Canada, the US, and other developed countries (2012)

Tier 2 Watch List: countries that do not fully comply with the minimum standards for the elimination of trafficking but are making significant efforts to do so; (44 countries) Antigua and Barbuda, Bolivia, Botswana, Bulgaria, Burkina Faso, Burma, Cambodia, China, Democratic Republic of the Congo, Republic of the Congo, Costa Rica, Cuba, Djibouti, Egypt, Gabon, Ghana, Guinea, Guyana, Haiti, Jamaica, Laos, Lebanon, Lesotho, Malaysia, Maldives, Mali, Mauritius, Namibia, Pakistan, Papua New Guinea, Qatar, Saudi Arabia, Saint Vincent and the Grenadines, Solomon Islands, Sri Lanka, Sudan, Suriname, Tanzania, Timor-Leste, Trinidad and Tobago, Tunisia, Turkmenistan, Ukraine, Uzbekistan

Tier 3: countries that neither satisfy the minimum standards for the elimination of trafficking nor demonstrate a significant effort to do so; (23 countries) Algeria, Belarus, Belize, Burundi, Central African Republic, Comoros, Equatorial Guinea, Eritrea, The Gambia, Guinea-Bissau, Iran, North Korea, Kuwait, Libya, Marshall Islands, Mauritania, Russia, South Sudan, Syria, Thailand, Venezuela, Yemen, Zimbabwe (2015)

Illicit drugs: cocaine: worldwide coca leaf cultivation in 2013 likely amounted to 165,000 hectares, assuming a stable crop in Bolivia; Colombia produced slightly less than half of the worldwide crop, followed by Peru and Bolivia; potential pure cocaine production increased 7% to 640 metric tons in 2013; Colombia conducts an aggressive coca eradication campaign, Peru has increased its eradication efforts, but remains hesitant to eradicate coca in key growing areas.

Opiates: worldwide illicit opium poppy cultivation increased in 2013, with potential opium production reaching 6,800 metric tons; Afghanistan is world's primary opium producer, accounting for 82% of the global supply; Southeast Asia was responsible for 12% of global opium; Pakistan produced 3% of global opium; Latin America produced 4% of global opium, and most was refined into heroin destined for the US market (2015).

(Link: https://www.cia.gov/library/publications/the-world-factbook/geos/xx.html)

Defense Advanced Research Projects Agency (DARPA)

The Defense Advanced Research Projects Agency was created with a national sense of urgency in February 1958 amidst one of the most dramatic moments in the history of the Cold War and the already-accelerating pace of technology.

In the months preceding the official authorization for the agency's creation, Department of Defense Directive Number 5105.15, the Soviet Union had launched an Intercontinental Ballistic Missile (ICBM), the world's first satellite, Sputnik 1, and the world's second satellite, two months after Sputnik 1, resulted in a spectacular fiery failure. Finally, at the end of January 1958, a stunned United States became the second nation to place an object in orbit when it successfully launched the Explorer 1 satellite.

Out of this traumatic experience of technological surprise in the first moments of the Space Age, U.S. leadership created DARPA, initially with the shorter name Advanced Research Projects Agency (ARPA). In the nearly 60 years since it was established, DARPA has owned the critical mission of keeping the United States out front when it comes to cultivating breakthrough technologies for national security rather than in a position of catching up to strategically important innovations and achievements of others.

With no research and development facilities of its own, DARPA has become known as a laboratory and incubator of innovation by providing thought leadership, community-building frameworks, technology challenges, research management, funding, and other cultural and infrastructural support elements that it takes to usher transformative ideas toward consequential new realities.

1958 Rocket Development: Saturn V Moon Rocket and Centaur

In its first months, ARPA (at first without the D for “Defense”) managed and funded rocket development programs that would prove to be long lived and far-reaching. Among these was a launch-vehicle program under the auspices of Wernher von Braun’s engineering team that would transfer to America’s new civilian space program, the National Aeronautics and Space Administration.

1959 First Weather Satellite: Television and Infrared Observations Satellites (TIROS)

Initiated by ARPA in 1958 and transferred to NASA in 1959, the Television and Infrared Observations Satellites (TIROS) program became the prototype for the current global systems used for weather reporting, forecasting and research by the Defense Department, NASA and the National Oceanographic and Atmospheric Administration (NOAA).

1959 Phased Arrays: Electronically Steered Array Radar

Before DARPA was established, a President's Science Advisory Committee panel and other experts had concluded that reliable ballistic missile defense (BMD) and space surveillance technologies would require the ability to detect, track, and identify a large number of objects moving at very high speeds. Responding to these needs, DARPA in 1959 initiated a competition for the design and construction of a large, experimental two-dimensional phased array with beam steering under computer control rather than requiring mechanical motion of the antenna.

1960 Materials Science and Engineering

In the 1960s and early 1970s ARPA funded Interdisciplinary Laboratories (IDLs) at a dozen universities, helping to create a catalytic new research field known as materials science and engineering.

1960 Reconnaissance Satellite

One of the world's earliest and most well-known spy satellite programs, the now declassified Corona photo-reconnaissance program, was jointly funded by DARPA and the Central Intelligence Agency.

1960 Transit Satellite: Precursor to Global Positioning System

ARPA launched the first satellite in what would become the world's first global satellite navigation system. Known as Transit, the system provided accurate, all-weather navigation to both military and commercial vessels, including most importantly the Navy's ballistic missile submarine force.

1961 ARPA Midcourse Optical Station

With the goal of developing an astronomical-quality observatory to obtain precise measurements and images of satellites and payloads reentering the atmosphere from space and other space objects, the Agency initiated the ARPA Midcourse Optical Station (AMOS) program. By 1969, the quality and potential of AMOS had been demonstrated, and a second phase began to measure properties of reentry bodies at the facility under the Advanced Ballistic Reentry System Project. In the late 1970s, successful space object measurements continued in the infrared and visible ranges, and laser illumination and ranging were initiated.

1962 Founding of Information Processing Techniques Office

DARPA's Information Processing Techniques Office (IPTO) was born in 1962 and for nearly 50 years was responsible for DARPA's information technology programs. IPTO did not itself perform research, but rather invested in breakthrough technologies and seminal research projects that led to significant developments in computer hardware and software.

1962 oN-Line System & "The Mother of All Demos"

A groundbreaking computer framework known as oN-Line System (NLS) got off the ground thanks to funding from DARPA and the U.S. Air Force. Conceived by Douglas Engelbart and developed by him and colleagues at the Stanford Research Institute (SRI), the NLS system was the first to feature hypertext links, a mouse, raster-scan video monitors, information organized by relevance, screen windowing, presentation programs and other modern computing concepts. In what became known as "The Mother of All Demos," because it demonstrated the revolutionary features of NLS as well as never-before-seen video presentation technologies, Engelbart unveiled NLS in San Francisco on December 9, 1968, to a large audience at the Fall Joint Computer Conference.

1963 VELA

The agreement between the United States and the Soviet Union to ban atmospheric tests of nuclear weapons was abetted by the ARPA program called VELA for developing sensors that can detect nuclear explosions in space, the upper atmosphere, and underground. The first VELA sensors to be deployed, on a pair of satellites launched three days after the 1963 treaty was signed, were designed to monitor for optical and electromagnetic signatures of nuclear explosions in the atmosphere.

1964 First Computer Mouse

As part of a ARPA-funded experiment to find better ways for computer users to interact with computers, Douglas Engelbart of SRI, who would later work on the DARPA-sponsored ARPANET project (the Internet’s precursor), invented the computer mouse The first mouse was carved out of wood and had just one button.

1964 Project MAC

One of the first major efforts supported by ARPA's Information Processing Techniques Office (IPTO) was Project MAC, the world’s first large-scale experiment in personal computing, at the Massachusetts Institute of Technology (MIT). Orchestrated within the general context of broad-based command and control research suggested by the Office of the Secretary of Defense, and based on the vision of the founding IPTO Director, J.C.R. Licklider, MAC was oriented toward achieving a new level of human-computer interaction.

1965 Arecibo Observatory

Located in Arecibo, Puerto Rico, the Arecibo Observatory houses the world’s largest single-dish radio telescope. The giant telescope "dish" is 1,000 feet (305 meters) in diameter, 167 feet (51 meters) deep and covers an area of approximately 20 acres (0.08 square kilometers).

1965 Compact Turbofan Engines

Building on the momentum of jet engine research, ARPA joined with the Army to fund development by Williams Research of a compact turbofan engine whose progeny would power

the AGM-86B air-launched cruise missile ship- or submarine-launched Tomahawk cruise missiles.

1965 Project AGILE & the M16 Rifle

The M16 Assault Rifle is the standard-issue shoulder weapon in the U.S. military. Designed to fire small, high-velocity rounds (5.56 mm caliber vs. 7.62 mm), the weapon is relatively small and light, thereby significantly decreasing combat load. The M16 is based on a design (the Colt AR-15) that had already been rejected by the Chief of Staff of the Army in favor of the heavier 7.62 mm M14. Colt brought the weapon to DARPA in 1962. Through Project AGILE, DARPA purchased 1,000 AR-15s and issued them to combat troops in Southeast Asia for field trials, to prove that the high-velocity 5.56 mm round had satisfactory performance.

1969 ARPANET and the Origins of the Internet

ARPA research played a central role in launching the "information revolution," including developing or furthering much of the conceptual basis for ARPANET, a pioneering network for sharing digital resources among geographically separated computers. Its initial demonstration in 1969 led to the Internet, whose world-changing consequences unfold on a daily basis today. A seminal step in this sequence took place in 1968 when ARPA contracted BBN Technologies to build the first routers, which one year later enabled ARPANET to become operational.

1971 LAMBDA and Anti-Submarine Warfare

With the blue water threat of free-ranging, nuclear-armed Soviet submarines coming to a head in 1971, the DoD assigned DARPA a singular mission: Revamp the U.S. military's antisubmarine warfare (ASW) capabilities to track enemy subs under the open ocean where the U.S. Navy's existing Sound Surveillance System (SOSUS) was falling short.

1972 ARPA Changes Names

The Advanced Research Projects Agency (ARPA) gained a "D" when it was renamed the Defense Advanced Research Projects Agency (DARPA), a moniker that reverts to ARPA in 1993, only to have its "D" added back again in 1996.

1972 New Materials and Rare-Earth Magnets

New materials that perform better than previous ones or with unprecedented properties open pathways to new and improved technologies. F-15 and F-16 fighter aircraft, still in use by the Air Force today, owe much of their performance advancements to materials technologies that emerged from DARPA materials development programs conducted in the 1970s and early 1980s.

1973 Foundation of TCP/IP

In a seminal moment in the emergence of today's Internet, DARPA's Robert Kahn (who joined the Information Processing Techniques Office as a program manager in 1972) asked Vinton Cerf

of Stanford University to collaborate on a project to develop new communications protocols for sending packets of data across the ARPAnet. That query resulted in the creation of the Transmission Control Protocol (TCP) and the Internet Protocol (IP), most often seen together as TCP/IP. These protocols remain a mainstay of the Internet's unseen technical foundation.

1977 HAVE BLUE and the Origin of Stealth Technology

In the early 1970s, a DARPA study brought to light the extent of vulnerabilities of U.S. aircraft and their on-board equipment to detection and attack by adversaries, who were deploying new advanced air-defense missile systems. These systems integrated radar-guided surface-to-air missiles (SAMs) and air-launched radar-guided missiles, all networked with early-warning, acquisition, and targeting radars, and coordinated within sophisticated command and control frameworks.

1978 Parts for the Hubble Space Telescope

The National Aeronautics and Space Administration's (NASA) Hubble Telescope takes the clearest images of the universe and transmits these to Earth via its antennas. From 1978 to 1980 DARPA funded the design, fabrication, delivery and installation of two antenna booms for the Hubble Space Telescope to demonstrate the advantages of metal matrix composites.

1980 Foundation of DARPA's Defense Sciences Office

DARPA established the Defense Sciences Office (DSO) in 1980, combining the Nuclear Monitoring Research Office, materials science research, and cybernetic technology efforts into a single office. Since its inception, DSO has spawned two additional technology offices at DARPA: the Microsystems Technology Office (MTO) in 1992 and the Biological Technologies Office (BTO) in 2014.

1981 No-Tail-Rotor Helicopter (NOTAR)

In the early 1980s, DARPA nurtured the development of no-tail-rotor (NOTAR) technologies, resulting in significantly quieter helicopters that could operate with a lower chance for detection. DARPA's support to show the operational advantages of the NOTAR flying demonstrator led to a NOTAR series of helicopters used by government agencies and the commercial sector.

1983 Miniaturized Global Positioning System Receivers

With roots extending to the DARPA-supported Transit program—a Navy submarine-geopositioning system originating in the early years of the Space Age at the Johns Hopkins University Applied Physics Laboratory—what became today's world-changing GPS technology began to take modern form in 1973. That is when the Department of Defense called for the creation of a joint program office to develop the NAVSTAR Global Positioning System.

1984 X-29: The Most Aerodynamically Unstable Aircraft Ever Built

The December 1984 test flight of the X-29—the most aerodynamically unstable aircraft ever built—demonstrated forward-swept wing technology for supersonic fighter aircraft for the first time.

1987 “Tank Breaker” / Javelin Anti-Tank Weapon System

Beginning in the 1970s, DARPA began the “Tank Breaker” program in response to deficiencies identified by the Army and Marine Corps in their existing infantry anti-tank weapon. The Army evaluated two Tank Breaker designs by industry participants against alternatives in a shoot-off conducted in 1987-1988.

1992 Non-Penetrating Periscope

In response to a call by Congress to establish a program to develop and efficiently transfer new hull, mechanical and electrical technologies outside of normal Navy research and development channels, the Agency answered with the DARPA Advanced Submarine Technology (SUBTECH) program. Among ten technology demonstrations that successfully transitioned from the program to the Department of the Navy between 1989 and 1994 was the Non-Penetrating Periscope (NPP).

1997 Head-Mounted Displays

With an eye on the future of wearable computers and other technologies that can assist warfighters in daunting acts of multi-tasking, DARPA initiated programs to develop head-mounted displays to enable soldiers to view information with unprecedented ease and efficiency.

2002 High-Productivity Computing Systems

DARPA established its High-Productivity Computing Systems (HPCS) program, with a goal of revitalizing supercomputer research and markets, and incubating a new breed of fast, efficient, easier-to-use and affordable machines. DARPA made initial grants to five key players: IBM, Cray, Hewlett-Packard, Silicon Graphics, and Sun Microsystems.

2004 Quantum Key Distribution Network

As part of the then three-year-old Quantum Information Science and Technology (QuIST) program, DARPA-funded researchers established the first so-called quantum key distribution network, which is a data encryption framework for protecting a fiber-optic loop that connects facilities at Harvard University, Boston University, and the office of BBN Technologies in Cambridge, Mass.

2007 Autonomous High-Altitude Refueling

In an in-air demonstration in 2007, DARPA teamed up with NASA to show that high-performance aircraft can easily perform automated refueling from conventional tankers. The

2007 demonstration was not entirely automated, however: a pilot was on board to set conditions and monitor safety during autonomous refueling operations.

2010 High-Altitude LIDAR Operations Experiment

Leveraging past DARPA developments in laser-based versions of RADAR—known as LIDAR, short for light detection and ranging—the High-Altitude LIDAR Operations Experiment (HALOE) provided unprecedented access to high-resolution 3D geospatial data.

2011 Vehicle and Dismount Exploitation Radar

In collaboration with the Joint Improvised Explosive Device Defeat Organization, DARPA initiated the Vehicle and Dismount Exploitation Radar (VADER) program to design and then deploy a radar system for Unmanned Aerial Vehicles (UAVs) or small manned aircraft.

2013 Blast Gauge

Under a DARPA contract, the Rochester Institute of Technology (RIT) developed the Blast Gauge, a small device worn by warfighters to measure blast exposure and cue medics for initial response.

2013 Debut of Atlas Robot

The Atlas disaster-response robot made its public debut on July 11, 2013. In its original form, the 6'2", 330-lb. humanoid robot—developed for DARPA by Boston Dynamics of Waltham, Mass.—was capable of a range of natural movements. A tether connected the robot to both an off-board power supply and computer through which a human operator issued commands.

2014 EXACTO Live-Fire Testing

DARPA's Extreme Accuracy Tasked Ordnance (EXACTO) program conducted the first successful live-fire tests demonstrating in-flight guidance of .50-caliber bullets. EXACTO rounds maneuvered in flight to hit targets that were offset from where the sniper rifle was aimed.

2014 Spectrum Challenge Finals

On March 19-20, 2014, 15 teams from around the United States participated in the final event of the DARPA Spectrum Challenge, a competition designed to encourage development of programmable radios that can deliver high-priority transmissions in congested and contested spectrum environments.

(Link: http://www.darpa.mil/about-us/timeline/where-the-future-becomes-now)

Defense Intelligence Agency (DIA)

Defense Intelligence Agency (DIA) is a Department of Defense (DOD) combat support agency. We produce, analyze, and disseminate military intelligence information to combat and non-combat military missions. DIA serves as the Nation's primary manager and producer of foreign military intelligence and are a central intelligence producer and manager for the Secretary of Defense, the Joint Chiefs of Staff (JCS), and the Unified Combatant Command.

The DIA workforce is a mix of military employees including Army, Navy, Air Force, Marines and Department of Defense (DOD) civilians. More than 16,500 men and women work for the worldwide DIA workforce. DIA budget consists of justified requirements and is analyzed by DOD and Congressional budget committees. Exact numbers and specific budget information do not get released to the public due to security reasons.

1960s: Early Years

- DIA's "Activation Plan" was drafted by the agency's Director Designate, Lieutenant General Joseph Carroll, USAF.
- DIA occupied "A" and "B" Buildings at Arlington Hall Station from the early 1960s until the agency moved to Bolling Air Force Base in 1984.
- DIA validated and approved many U-2 missions from the 1960s through the 1990s. During the Cuban Missile Crisis of 1962, photo-interpreters discovered Soviet medium range ballistic missiles on Cuba using film from U-2 flights over the island.
- The medium range ballistic missiles installed by the Soviet Union in Cuba in 1962 were capable of hitting a significant portion of the United States, including much of the East Coast.
- DIA's Defense Intelligence School was chartered 1962.
- In 1963, DIA established the Production Center at Arlington Hall Station. Under the leadership of Brigadier General Herron Maples, USA (seated at the head of the table), the Production Center allowed DIA to consolidate and integrate several production elements from the Military Services.
- On February 6, 1963, DIA's John Hughes, special assistant to DIA Director Lieutenant General Joseph Carroll, USAF, conducted a televised briefing on the removal of the Soviet missiles from Cuba.
- A U.S. Air Force B-52 Stratofortress delivers a payload of bombs over Vietnam in 1966. DIA supported these strategic bombing missions, codenamed ARC LIGHT, by providing target lists to the Joint Chiefs of Staff who then selected targets for individual missions.

1970s: Years of Transition

- In November 1970, U.S. forces conducted a raid on Son Tay prison camp in Vietnam to rescue American prisoners of war (POWs). DIA provided intelligence support to this operation.

- Bombs are lined up in preparation for Operation LINEBACKER II in 1972. DIA analysts evaluated potential targets and provided bomb damage assessments in support of the operation.
- President Richard Nixon and Soviet Premier Leonid Brezhnev sign the Anti-Ballistic Missile Treaty and the Interim Agreement on the Limitation of Offensive Arms on May 26, 1972, in Moscow. The agreements created new intelligence requirements resulting in increased production pressures for DIA's analysts.
- Former American POWs cheer as their aircraft lifts off from Hanoi on its way to the U.S. in 1973 as part of Operation HOMECOMING. For two decades, DIA was at the center of the POW/Missing in Action (MIA) effort in Vietnam.
- The Defense Attaché Office in Saigon established its compound in the old MACV Headquarters on Tan Son Nhut Airbase after the signing of the Paris Peace Accords in 1973. During the fall of Saigon in April 1975, the Defense Attaché MG Homer D. Smith distinguished himself with the courage and heroism he displayed during the evacuation efforts.
- A U.S. Air Force nurse secures infants prior to takeoff during Operation BABYLIFT, an effort to evacuate Vietnamese orphans from Saigon. Five DIA employees lost their lives during the operation when the first flight crashed on takeoff on April 4, 1975.
- Shortly after the fall of Saigon in 1975, the Khmer Rouge of Cambodia seized the U.S. container vessel SS Mayaguez and its crew and took the vessel to an island off the coast of Cambodia. DIA coordinated the intelligence efforts to locate the ship, and President Ford ordered a contingent of U.S. Marines to retake the vessel.
- The Cobra Dane radar on Shemya Island became operational in 1977 and played a key role in evaluated Soviet ballistic missile capabilities throughout the 1970s and 1980s.

1980s: DIA Comes of Age

- In 1981, DIA issued the first in a series of unclassified publications on the strengths and capabilities of Soviet military forces. "Soviet Military Power" was a lavish production that included dozens of color photographs and paintings depicting Soviet hardware. It was republished in 1983 and subsequently updated every year until 1991.
- In April 1983, terrorists bombed the U.S. Embassy in Beirut, Lebanon, killing 63 people, including 17 Americans. Later that year, terrorists bombed the U.S. Marine Corps barracks in Beirut, killing 241 American servicemen stationed there as peacekeepers. These and subsequent terrorist attacks in the mid-1980s prompted DIA to establish its first all-source fusion cell for terrorism analysis.
- In October 1983, President Ronald Reagan ordered U.S. troops to Grenada in Operation URGENT FURY. DIA provided the bulk of the intelligence work in support of the operation. This marked the first time since the Son Tay Raid of 1970 that DIA supplied operational and tactical intelligence to combat forces.

- The new Defense Intelligence Analysis Center (DIAC) became operational in 1984. The new building allowed the agency to benefit from the consolidation and centralization of personnel and missions formerly scattered in a number of locations across the National Capital Region.
- In 1986, DIA supported Operation EL DORADO CANYON, during which the U.S. military launched a series of air strikes against Libya in response to Libyan-sponsored terrorist attacks in Berlin. DIA aided planning for the operation by providing target lists and indentifying Libyan air defenses.
- In October 1986, DIA received its first Joint Meritorious Unit Award for providing "unparalleled intelligence support encompassing the broadest range of intelligence analysis, technical services, photographic processing and reconnaissance imagery to meet the real time requirements of national decision makers." DIA's support to counterterrorism operations was singled out for special acknowledgement.
- The Goldwater-Nichols Defense Reorganization Act of 1986 designated DIA as a "combat support agency," a major milestone in the agency's history that resulted in an expansion of DIA's efforts in support of the war fighter.
- In November 1989, following several weeks of unrest, the East German government announced that it would permit visits to West Germany and West Berlin. Exuberant crowds of East and West Germans began to dismantle the Berlin Wall. The fall of the Berlin wall was soon followed by the collapse of the Soviet Union and the end of the Cold War, ushering in a new and challenging era for DIA.

1990s: New Missions, New Adversaries

- In the early stages of Operation DESERT STORM (1990-1991), DIA provided U.S. Central Command with much of the operational intelligence that allowed Coalition air power to destroy Iraqi air bases, radars and air defense sites. In 1991, DIA received a Joint Meritorious Unite Award in recognition of its support to Operations DESERT SHIELD and DESERT STORM.
- During Operation DESERT STORM, DIA attempted to track mobile Iraqi SCUD launchers with limited success.
- President George H.W. Bush and Soviet Premier Mikhail Gorbachev sign the Strategic Arms Reduction Treaty in the Kremlin, Moscow, in July 1991. At the time, DIA analysts were predicting Gorbachev's imminent fall from power. Within months, the Soviet Union had ceased to exist.
- In 1992, the Missile and Space Intelligence Center (MSIC) located in Huntsville, Alabama, became a field production element of DIA. MSIC personnel provide intelligence on short-range missile technologies such as those found in surface-to-air missiles, anti-tank guided missiles and short-range ballistic missiles.
- The Armed Forces Medical Intelligence Center (AFMIC) now the National Center for Medical Intelligence (NCMI) became a field production element of DIA in 1992. NCMI's mission

includes monitoring foreign environmental health and infectious disease risks, foreign biotechnology development and other issues that could potentially impact U.S. military operations and the health of U.S. troops.

- From 1992 to 1993, DIA supported Operation RESTORE HOPE, the U.S. effort to capture Somali warlords who were preventing Somalis from receiving international assistance.
- DIA deployed a National Intelligence Support Team (NIST) to Bosnia from 1995 to 1996 to assist U.S. and NATO efforts to stop the genocidal war raging there. The NISTs brought sophisticated and secure communications equipment to the Combatant Commands to support rapid turnaround intelligence requirements from the field.
- In 1996, terrorists bombed the Khbar Towers in Saudi Arabia, killing 19 U.S. servicemen. Following this attack, DIA created the Office for Counterterrorism Analysis.

2000s: Years of Transition

- On September 11, 2001, a group of foreign terrorists flew two commercial airliners into the World Trade Center in New York City and a third into the Pentagon. A fourth hijacked aircraft crashed into a field in western Pennsylvania. The attacks claimed approximately 3,000 lives, including seven DIA employees.
- In response to the September 11th attacks, on October 7, 2001, the U.S. launched Operation ENDURING FREEDOM to destroy terrorist camps and topple the Taliban regime in Afghanistan. Hundreds of DIA personnel eventually deployed to Afghanistan to provide in-theater analytic support, assist with document exploitation, support prisoner interrogations and provide direct support to military operations.
- The U.S. launched Operation IRAQI FREEDOM in March 2003 in response to the perceived threat posed by Iraqi leader Saddam Hussein's pursuit of weapons of mass destruction. Many deployed DIA analysts worked at the Perfume Palace in support of the effort.
- Starting in the months after Operation IRAQI FREEDOM, DIA supported and participated in the efforts of the Iraq Survey Group, a 1,400-member international team formed to located evidence of mass destruction programs developed under Iraqi dictator Saddam Hussein.
- The Defense Intelligence Analysis Center expansion was completed in the summer of 2005. The first group to occupy the new facility was made up of 66 employees from the Directorate for MASINT and Technical Collection.
- In 2010, the new Joint Use Intelligence Analysis Facility opened in Rivanna Station in Charlottesville, Virginia.

(Link: http://www.dia.mil/About/History/)

National Geospatial-Intelligence Agency (NGA)

The National Geospatial-Intelligence Agency is the nation's primary source of geospatial intelligence, or GEOINT for the Department of Defense and the U.S. Intelligence Community. As a DOD combat support agency and a member of the IC, NGA provides GEOINT, in support of U.S. national security and defense, as well as disaster relief. GEOINT is the exploitation and analysis of imagery and geospatial information that describes, assesses and visually depicts physical features and geographically referenced activities on the Earth.

The National Geospatial-Intelligence Agency (NGA) delivers world-class geospatial intelligence that provides a decisive advantage to policymakers, warfighters, intelligence professionals and first responders. Anyone who sails a U.S. ship, flies a U.S. aircraft, makes national policy decisions, fights wars, locates targets, responds to natural disasters, or even navigates with a cellphone relies on NGA. NGA enables all of these critical actions and shapes decisions that impact our world through the indispensable discipline of geospatial intelligence (GEOINT).

NGA is a unique combination of intelligence agency and combat support agency. It is the world leader in timely, relevant, accurate and actionable GEOINT. NGA enables the U.S. intelligence community and the Department of Defense (DOD) to fulfill the president’s national security priorities to protect the nation. NGA also anticipates its partners’ future needs and advances the GEOINT discipline to meet them.

NGA is the lead federal agency for GEOINT and manages a global consortium of more than 400 commercial and government relationships. The director of NGA serves as the functional manager for GEOINT, the head of the National System for Geospatial Intelligence (NSG) and the coordinator of the global Allied System for Geospatial Intelligence (ASG). In its multiple roles, NGA receives guidance and oversight from DOD, the Director of National Intelligence (DNI) and Congress.

NGA is headquartered in Springfield, Va. and has two major locations in St. Louis and Arnold, Mo. Hundreds of NGA employees serve on support teams at U.S. military, diplomatic and allied locations around the world.

1. NGA delivers the strategic intelligence that allows the president and national policymakers to make crucial decisions on counterterrorism, weapons of mass destruction, global political crises and more.

2. NGA enables the warfighter to plan missions, gain battlefield superiority, precisely target the adversary and protect our military forces.

3. NGA provides timely warnings to the warfighter and national decision makers by monitoring, analyzing and reporting imminent threats. Often, NGA has the only “eyes” focused on global hot spots and can give unique insight into these critical areas.

4. NGA protects the homeland by supporting counterterrorism, counternarcotics, and border and transportation security. NGA supports security planning for special events, such as presidential

inaugurations, state visits by foreign leaders, international conferences and major public events (Olympics, Super Bowls, satellite launchings, etc.).

5. NGA ensures safety of navigation in the air and on the seas by maintaining the most current information and highest quality services for U.S. military forces and global transport networks.

6. NGA defends the nation against cyber threats by supporting other intelligence agencies with in-depth analysis of cyber networks.

7. NGA creates and maintains the geospatial foundation data, knowledge and analysis that enable all other missions.

8. NGA assists humanitarian and disaster relief efforts by working directly with the lead federal agencies responding to fires, floods, earthquakes, landslides, hurricanes or other natural or manmade disasters.

NGA employs approximately 14,500 government civilians, military members and contractors, with approximately two-thirds of the workforce located at the NGA Headquarters at NGA Campus East, on Fort Belvoir North Area in Springfield, Va., and approximately one-third of the workforce located at NGA's two St. Louis facilities.

NGA releases items of general public interest on its public website, which includes information about NGA, unclassified current publications, speeches and congressional testimony, press releases and statements, career information, and basic references. Also available are GEOINT products and services, a data catalogue, and mobile and web applications.

By statutory and presidential direction, NGA is limited in the collection of foreign intelligence concerning the domestic activities of US citizens. NGA's mission is to provide timely, relevant, and accurate geospatial intelligence in support of national security. Under Executive Order 12333, and in accordance with procedures approved by the Attorney General of the United States, however, NGA is restricted in the collection of intelligence information directed against US citizens. Collection is allowed only for an authorized intelligence purpose; for example, if there is a reason to believe that an individual is involved in international terrorist or international narcotics activities. NGA also provides intelligence support to domestic disaster relief and special security events in the United States. All of NGA's activities are to be conducted in a manner that protects fully the legal rights of all United States persons, including the freedoms, civil liberties, and privacy rights guaranteed by the Constitution and Federal law.

History

Content Intelligence based upon the Earth’s physical and man-made attributes—and the art and science of interpreting that information—began to change well before the tragedy of September 11, 2001. By combining America’s most advanced imagery and geospatial assets within the National Imagery and Mapping Agency (NIMA) in 1996, the U.S. created a much-needed

critical mass of skills and technologies under a single mission umbrella. As a result, the intelligence community was able to take its geospatial products to a new level. With the creation of NGA in 2003, this area of intelligence took another leap forward, allowing us to integrate multiple sources of information, intelligence and tradecrafts to produce an innovative and sophisticated new discipline that then NGA director James Clapper formally christened as geospatial intelligence, or GEOINT.

The change of name from NIMA to NGA had little to do with semantics and much to do with achieving greater insight into GEOINT. Using this new paradigm, intelligence professionals were better able to exploit and analyze imagery and geospatial information to describe, assess and visually depict physical features and human activity on the Earth. Today, NGA continues to deliver these vital intelligence products in responding to, and anticipating, our nation's most critical national security challenges. GEOINT enables our nation's leaders to make the best policy decisions possible. It also supports military partners' tactical and operational missions abroad. More than ever, this agency works hard to put GEOINT in the hands of our customers—when, where and how they need it.

From the discovery of atrocities in Kosovo, to support for the cities hosting the Olympics, through the response to Hurricane Katrina, and work in Haiti and Japan, NGA has provided critical GEOINT support when our nation needed it most. In the White House report reviewing the response to Hurricane Katrina, NGA was specifically commended for its timely response during the crisis. NGA helped track down al Qaeda leader Osama bin Ladin and shared insights with the special operations team that successfully stormed his compound in Abbottabad, Pakistan on May 1, 2011.

(Link: http://www.dia.mil/About/History/)

U.S. Fish and Wildlife Service

The service manages the 150 million-acre National Wildlife Refuge System of more than 560 National Wildlife Refuges and thousands of small wetlands and other special management areas. Under the Fisheries program we also operate 70 National Fish Hatcheries, 65 fishery resource offices and 86 ecological services field stations.

The vast majority of fish and wildlife habitat is on non-Federal lands. Voluntary habitat protection and restoration programs like the Partners for Fish and Wildlife Program and the Coastal Program and other partnership programs are the primary ways we deliver habitat conservation on public and private lands.

The Service employs approximately 9,000 people at facilities across the U.S. The Service is a decentralized organization with a headquarters office in Washington, D.C., with regional and field offices across the country. Our organizational chart shows structure and also provides information on senior management.

Objectives:

1. Assist in the development and application of an environmental stewardship ethic for our society, based on ecological principles, scientific knowledge of fish and wildlife, and a sense of moral responsibility.

2. Guide the conservation, development, and management of the Nation's fish and wildlife resources.

3. Administer a national program to provide the public opportunities to understand, appreciate, and wisely use fish and wildlife resources.

Functions:

- •Enforce federal wildlife laws,
- •Protect endangered species,
- •Manage migratory birds,
- •Restore nationally significant fisheries,
- •Conserve and restore wildlife habitat such as wetlands,
- •Help foreign governments with their international conservation efforts, and
- • Distribute hundreds of millions of dollars, through our Wildlife Sport Fish and Restoration program, in excise taxes on fishing and hunting equipment to State fish and wildlife agencies.

History

U.S. Fish and Wildlife Service programs are among the oldest in the world dedicated to natural resource conservation. You can trace its history back to 1871 and the U.S. Commission on Fish and Fisheries in the Department of Commerce and the Division of Economic Ornithology and Mammalogy in the Department of Agriculture

A 1940 reorganization plan (54 Stat. 1232) in the Department of the Interior consolidated the Bureau of Fisheries and the Bureau of Biological Survey into one agency to be known as the Fish and Wildlife Service. The Bureau of Sport Fisheries and Wildlife was created as a part of the U.S. Fish and Wildlife Service in the Department of the Interior on November 6, 1956, by the Fish and Wildlife Act of 1956 (70 Stat. 1119). That act was amended on July 1, 1974, by Public Law 93-271 (88 Stat. 92) to, among other purposes, abolish the position of Commissioner of Fish and Wildlife and designate the Bureau as the U.S. Fish and Wildlife Service.

Timeline

- 1871: U.S. Commission on Fish and Fisheries created. Charged with studying and recommending solutions to decline in fisheries. Commission was given an initial appropriation of $5000. Spencer Fullerton Baird (1823-1887) is the first Fish Commissioner.

- 1872: Fish hatcheries authorized by Congress for propagation of food fishes, initial appropriation is $15,000. Baird Station in northern California used to collect, fertilize and ship salmon eggs by rail to East coast. Deep-sea exploring vessel Albatross launched August 19 to survey offshore fishing, serves as an ocean-going marine biology laboratory for 39 years.

- 1885: Office of Economic Ornithology created in Department of Agriculture with a $5000 appropriation. C. Hart Merriam (1855-1942) heads new section and begins survey of geographic distribution of nation's birds and mammals. Early work centers on role of birds in controlling agricultural pests.

- 1896: Division of Biological Survey was formed out of Division of Economic Ornithology and Mammalogy. In 1905, it was renamed the Bureau of Biological Survey.
- 1900: Lacey Act passed.

- 1900: Division of Biological Survey is given responsibility of enforcing the Lacey Act preventing illegal shipment or importation of wildlife. Beginning of law enforcement role for agency. American Ornithologist's Union hires first "wardens" to foil plumage hunters. Audubon National committee formed to coordinate efforts.

- 1903: President Theodore Roosevelt establishes nation's first wildlife refuge on March 14 at Pelican Island National Bird Reservation. Pelican Island is assigned to the Division of Biological Survey. American Ornithologist's Union agrees to pay warden, Paul Kroegel. Commission on Fish and Fisheries renamed Bureau of Fisheries and moved into new Department of Commerce and Labor.

- 1905: The Bureau of Biological Survey established in the Department of Agriculture, replacing the old Division of Economic Ornithology and Mammalogy. The new bureau becomes responsible for managing new bird and mammal reservations and "set-aside" areas.

- 1906: Game and Bird Preserves Protection Act (Refuge Trespass Act) gives regulatory authority for public uses on reservation.

- 1909: President Roosevelt establishes 26 Bird Reservations, Mount Olympus National Monument in Washington for elk, and Fire Island, Alaska for moose. The Yukon Delta Bird Reservation in Alaska is 15 million acres.

- 1913: The Federal Migratory Bird Law gives federal government authority over hunting of migratory birds and the first migratory bird hunting regulations were adopted

- 1916: Treaty signed between U.S. and Great Britain (representing Canada) to protect migratory birds.

- 1920s: Bird banding programs started (When were flyways officially designated?)

- 1918: Migratory Bird Treaty Act passed by U.S. Congress implementing the convention between the U.S. and Great Britain (Canada) for the protection of migratory birds.

- 1920s: Bird banding programs started (When were flyways officially designated?)

- 1924: Upper Mississippi River Wildlife and Fish Refuge established by Congress

- 1929: Bear River Migratory Bird Refuge established by Congress

- 1929: Migratory Bird Conservation Act passed authorizing the appropriation of $7.9 million for the purchase or lease of refuges for waterfowl and establishing a Migratory Bird Conservation Commission to approve areas recommended by the Secretary for acquisition with migratory bird conservation funds.

- 1931: Animal Damage Control Act provides broad authority to control predators, rodents and birds under U.S. Department of Interior.

- 1933: Aldo Leopold (1886-1948) writes Game Management.

- 1933: Civilian Conservation Corps crews and Works Progress Administration employees build infrastructure and improve habitat on over 50 national wildlife refuges and fish hatcheries throughout the 1930s.

- 1934: Original Fish and Wildlife Coordination Act authorized the Secretaries of Agriculture and Commerce to "provide assistance to and cooperate with Federal and State agencies" on issues involving the protection and production of fish and wildlife.

- 1934: Thomas Beck, Aldo Leopold, and Jay “Ding” Darling are appointed to a special Presidential Committee on Wildlife ("Beck Committee”) to make recommendations to improve national wildlife resources.

- 1934: President Franklin Roosevelt appoints "Ding" Darling to head the Bureau of Biological Survey. Darling and his Chief of Refuges, J. Clark Salyer II, expand the Refuge System to nearly 14 million acres over the next 20 years.

- 1934: Congress passes the Migratory Bird Hunting and Conservation Stamp Act (Duck Stamp Act) providing a source of funding for the acquisition and management of waterfowl habitat.

- 1934: Division of Game Management was created in the Bureau of Biological Survey for wildlife law enforcement.

- 1935: Federal Power Act is enacted and requires the Federal Energy Regulatory Commission to accept the Service's prescriptions for fish passage.

- 1935: Lacey Act amended to prohibit foreign commerce in illegally taken wildlife.

- 1936: Convention between the U.S. and Mexico for the protection of migratory birds and game mammals is signed.

- 1935: The Waterfowl Flyways of North America. In 1935, relying on data from waterfowl banding, Frederick Lincoln developed the Flyways concept. The concept gained widespread credence and is still applied in an administrative context with the annual development of migratory bird hunting regulations.

- 1936: Bureau of Fisheries hires Rachel Carson (1907-1964) as a biologist.

- 1937: Congress passes Federal Aid in Wildlife Restoration Act (Pittman-Robertson Act). The Act makes federal funds available for state wildlife protection and propagation. The funds are derived from taxes on rifles, archery equipment and ammunition and are used for purchasing game habitat and conducting wildlife research.

- 1940: Fish and Wildlife Service is created by combining the Bureau of Fisheries and the Bureau of Biological Survey within the Department of Interior. Ira Gabrielson named first Director of Fish and Wildlife Service

- 1940: Western Hemisphere Convention signed by the U.S. (Convention on Nature Protection and Wildlife Preservation in the Western Hemisphere). -- Under this 1940 treaty, the governments of the United States and 17 other American republics expressed their wish to "protect and preserve in their natural habitat representatives of all species and genera of their native flora and fauna, including migratory birds" and to protect regions and natural objects of scientific value. The nations agreed to take certain actions to achieve these objectives, including the adoption of "appropriate measures for the protection of migratory birds of economic or esthetic value or to prevent the threatened extinction of any given species."

- 1940: Bald Eagle Act enacted.
- 1942: Fish and Wildlife Service Headquarters Office moves to Chicago for the duration of World War II.
- 1942: First Refuge Field Manual issued addressing a variety of organizational, personnel and management topics.
- 1946: The Service's River Basin Studies Program was founded in response to amendments to the Fish and Wildlife Coordination Act and growing demands for more protection of fish and wildlife resources threatened by large federal water projects. Created a growing network of field offices that would become our Ecological Services field offices of today, bringing fish and wildlife technical assistance to the public and state agencies throughout the country.
- 1946: Albert Day becomes FWS Director.
- 1949: A Sand County Almanac published.
- 1949: Duck Stamp Act increases fee to $2 while allowing up to 25% of any refuge's area to be used for hunting.
- 1951: Administrative Flyway system for waterfowl management adopted.
- 1953: John Farley becomes FWS Director.
- 1955: The Continnental Waterfowl Population Survey Program begins standardized cooperative surveys performed by the U.S. Fish and Wildlife Service, the Canadian Wildlife Service, state and provincial biologists, and non-governmental cooperators. The survey program is believed to be the most extensive, comprehensive, long-term annual wildlife survey effort in the world. The results of these surveys determine the status of North America’s waterfowl populations; play a significant role in setting annual waterfowl hunting regulations; and help to guide the decisions of waterfowl managers throughout North America.
- 1956: The Fish and Wildlife Act of l956 established a comprehensive national fish and wildlife policy and broadened the authority for acquisition and development of refuges.
- 1956: The Fish and Wildlife Service re-organized into the United States Fish and Wildlife Service consisting of the Bureau of Sport Fisheries and Wildlife and Bureau of Commercial Fisheries.
- 1957: Daniel Janzen becomes FWS Director.
- 1958: Amendments to the Fish and Wildlife Coordination Act require coordination between Federal and State agencies and consideration of fish and wildlife impacts, thereby laying the groundwork for the creation of the National Environmental Policy Act (NEPA) and portions of the Clean Water Act.

- 1960: Arctic National Wildlife Range established
- 1962: Recognizing new public demands for recreational activities after World War II, Congress passed the Refuge Recreation Act of l962 which authorized the recreational use of refuges when such uses did not interfere with the area's primary purposes and when sufficient funds were available to conduct recreational activities.
- 1962: Rachel Carson publishes Silent Spring.
- 1962: Bald Eagle Protection Act amended to become the Bald and Golden Eagle Protection Act.
- 1964: John Gottschalk becomes FWS Director.
- 1964: Congress passes the Land and Water Conservation Fund and provides a dedicated funding stream for land acquisition.
- 1964: Wilderness Act creates National Wilderness Preservation System which includes national wildlife refuges.
- 1966: Congress passes the National Wildlife Refuge System Administration Act for the administration and management of all areas in the system including "wildlife refuges, areas for the protection and conservation of fish and wildlife that are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, and waterfowl production areas."
- 1967: Bald eagles declared an endangered species
- 1969: The National Environmental Policy Act (NEPA) passed by Congress and becomes the principle tool for assessing the impacts of major federal development projects on fish and wildlife. NEPA planning is now the center piece of nearly all federal resource planning and mitigation.
- 1970: Spencer Smith becomes FWS Director.
- 1970: The Endangered Species Conservation Act of 1969 became effective prohibiting the importation into the United States of species "threatened with extinction worldwide," except as specifically allowed for zoological and scientific purposes, and propagation in captivity.
- 1970: Bureau of Commercial Fisheries is moved out of the U.S. Fish and Wildlife Service and transferred to Department of Commerce, renamed National Marine Fisheries Service as part of new National Oceanic and Atmospheric Administration.
- 1970: The peregrine falcon is listed as endangered, a victim of the pesticide DDT, which caused eggshell thinning and prevented breeding success
- 1970: First Earth Day celebrated on April 22.

- 1971: The Alaska Native Claims Settlement Act (ANCSA), an outgrowth of the Alaska Statehood Act, authorized the addition of immense acreages of highly productive, internationally significant wildlife lands to the Refuge System.

- 1971: Convention on Wetlands of International Importance Especially as Waterfowl Habitats; adopted in Ramsar, Iran, on February 3, 1971, and opened for signature at UNESCO headquarters on July 12, 1972. On December 21, 1975, the Convention entered into force after the required signatures of seven countries. The United States Senate consented to ratification of the Convention on October 9, 1986, and the President signed instruments of ratification on November 10, 1986. The Convention maintains a list of wetlands of international importance and works to encourage the wise use of all wetlands in order to preserve the ecological characteristics from which wetland values derive. The Convention is self-implementing, with the U.S. Fish and Wildlife Service serving as the U.S. administrative authority for the Convention, in consultation with the Department of State.

- 1972: The Environmental Protection Agency bans the use of DDT in the U.S. because of its potential danger to both people and to wildlife, including the bald eagle, peregrine falcon, and brown pelican.

- 1972: U.S. and Japan signed the Convention for the Protection of Migratory Birds and Birds in Danger of Extinction, and Their Environment. The Convention addresses the conservation of migratory birds in the U.S., its territories, and Japan.

- 1972: The Marine Mammal Protection Act was enacted, prohibiting the take (i.e., hunting, killing, capture, and /or harassment) of marine mammals, and enacting a moratorium on the import, export, and sale of marine mammal parts and products.

- 1973: Lynn Greenwalt becomes FWS Director.

- 1973: Congress passes the Endangered Species Act and puts Fish and Wildlife Service and National Marine Fisheries Service in charge of enforcing it. Over 25 refuges have been established for the specific protection of an endangered species, including the Attwater Prairie Chicken, Mississippi Sandhill Crane, and Crocodile Lake Refuges.

- 1975: The Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES) is ratified, regulating the importation, exportation, and re-exportation of species.

- 1976: Convention Between the U.S. and the USSR Concerning the Conservation of Migratory Birds and Their Environment, signed in Moscow on November 19, 1976. The Convention provides for the protection of species of birds that migrate between the United States and the Soviet Union or that occur in either country and "have common flyways, breeding, wintering, feeding or moulting areas."

- 1977: The first plant species are listed as endangered—the San Clemente Island Indian paintbrush, San Clemente Island larkspur, San Clemente Island broom, and San Clemente Island bush-mallow.

- 1978: The U.S. Supreme Court finds the Tennessee Valley Authority in violation of the ESA by building a dam that would threaten the continued survival of the snail darter.

- 1978: The U.S. Supreme Court finds the Tennessee Valley Authority in violation of the ESA by building a dam that would threaten the continued survival of the snail darter.

- 1980: Congress passes the Alaska National Interest Lands Conservation Act, creating 9 new wildlife refuges including the 18 million acre Arctic National Wildlife Refuge, and expanding 7 other units. The law adds 54 million refuge acres in Alaska, tripling the size of the Refuge System.

- 1980: Fish and Wildlife Conservation Act enacted protecting non-game species.

- 1981: Robert Jantzen becomes FWS Director.

- 1984: National Fish and Wildlife Foundation Establishment Act creates the Foundation as a federally chartered charitable, non-profit corporation to aid Service conservation efforts.

- 1985: Animal Damage Control moved from Fish and Wildlife Service to the Animal and Plant Health Inspection Service in United States Department of Agriculture.

- 1986: Frank Dunkle becomes FWS Director.

- 1986: North American Waterfowl Management Plan signed. Recognizing the importance of waterfowl and wetlands to North Americans and the need for international cooperation to help in the recovery of a shared resource, the U.S. and Canadian governments developed a strategy to restore waterfowl populations through habitat protection, restoration, and enhancement. The strategy was documented in the North American Waterfowl Management Plan signed in 1986 by the Canadian Minister of the Environment and the U.S. Secretary of the Interior, the foundation partnership upon which hundreds of others would be built. With its update in 1994, Mexico became a signatory to the Plan.

- 1988: The African Elephant Conservation Act became law, providing additional protection for the species, whose numbers had declined by 50 percent in the last decade. The Lacey Act was amended to include, among other things, felony provisions for commercial guiding violations.

- 1989: John Turner becomes FWS Director.

- 1989: Congress passes the North American Wetlands Conservation Act. The North American Wetlands Conservation Act was passed, in part, to support activities under the North American Waterfowl Management Plan, an international agreement that provides a strategy for the long-term protection of wetlands and associated uplands habitats needed by waterfowl and other migratory birds in North America. The Act provides matching grants to organizations and individuals who have developed partnerships to carry out

wetlands conservation projects in the United States, Canada, and Mexico for the benefit of wetlands-associated migratory birds and other wildlife.

- 1989: The National Fish and Wildlife Forensics Laboratory was dedicated in Ashland, Oregon, providing expertise to assist in investigations, ranging from species identification to technical assistance such as surveillance and photography.
- 1990: Northern Spotted owl listed as threatened species.
- 1993: Mollie Beattie becomes first female FWS Director.
- 1995: Bald eagle upgraded from endangered to a threatened species.
- 1997: National Wildlife Refuge System Improvement Act strengthens the mission of the Refuge System, clarifies priority public uses, and requires comprehensive conservation plans for every refuge.
- 1997: Jamie Clark becomes FWS Director.
- 1997: The National Conservation Training Center in Shepherdstown, West Virginia is officially dedicated.
- 1998: Reauthorization of the Rhinoceros-Tiger Conservation Act prohibited the import, export, or sale of any product, item or substance containing, or labeled as containing, any substance derived from tigers or rhinos.
- 1999: The peregrine falcon delisted following recovery.
- 2000: Congress passes the Neotropical Migratory Bird Conservation Act to protect and conserve neotropical migrants both in the U.S. and in their winter homes in latin America and the Caribbean.
- 2002: Steven Williams becomes FWS Director.
- 2004: The California Condor reproduces in the wild for the first time in 17 years.
- 2005: H. Dale Hall becomes FWS Director.
- 2006: White nose syndrome first discovered in a single cave in New York. The fungal disease has since spread to 19 states and four Canadian provinces, and killed more than 5.7 million bats.
- 200: Papahanaumokuakea Marine National Monument--the first marine national monument--was established by Presidential proclamation under the authority of the Antiquities Act of 1906. Papahanaumokuakea Marine National Monument, which extends 1200 miles from Nihoa to Kure Atoll in the Northwestern Hawaiian Islands, is the largest protected area in the United States.

- 2007: As a result of the banning of DDT and ESA protection, the bald eagle is delisted due to recovery.

- 2009: Sam Hamilton becomes FWS Director.

- 2009: Three additional marine national monuments were established in the Pacific. In total, these 4 marine monuments protect the biological and geological heritage on nearly 214,777,000 acres of small islands, atolls, coral reefs, submerged lands, and deep blue waters.

- 2009: As a result of the banning of DDT and ESA protection, more than 650,000 brown pelicans could be found across Florida and the Gulf and Pacific Coasts. Therefore, it is removed from Federal protection as an endangered species.

- 2010: On April 20, the Deepwater Horizon drilling rig exploded and sank in the Gulf of Mexico, triggering the largest oil spill in history. Oil gushed from the sea floor until the well was capped on July 15. About 4.9 million barrels of oil are estimated to have been spilled during these 87 days. During the response and continuing in the damage assessment FWS employees worked to rescue oiled wildlife, patrol beaches, wetlands, and estuaries, relocate sea turtles, assist the States and local landowners, and evaluate the ecological impacts of the spill.

- 2011: Dan Ashe becomes FWS Director.

- 2013: On November 14, 2013, the United States destroyed its six-ton stock of confiscated elephant ivory, sending a clear message that the nation will not tolerate wildlife crime that threatens to wipe out the African elephant and a host of other species around the globe. The destruction of this ivory, which took place at the U.S. Fish and Wildlife Service's National Wildlife Property Repository on the Rocky Mountain Arsenal National Wildlife Refuge near Denver, Colorado, was witnessed by representatives of African nations and other countries, dozens of leading conservationists, and international media representatives.

- 2014: On February 5, 2014, the U.S. Fish and Wildlife Service proposed delisting the Oregon chub from the Endangered Species Act. If finalized, it would be the first ever fish removed from the ESA due to recovery, a monumental success for the Service and the many partners who worked together to make this happen, and for all Americans concerned about the health of our nation's wildlife.

(Link: https://training.fws.gov/history/USFWS-history.html)

General Services Administration (GSA)

GSA provides centralized procurement for the federal government, offering billions of dollars worth of products, services, and facilities that federal agencies need to serve the public. GSA's acquisition solutions supply federal purchasers with cost-effective high-quality products and services from commercial vendors. GSA helps federal agencies build and acquire office space, products and other workspace services, and oversees the preservation of historic federal properties. Its policies covering travel, property and management practices promote efficient government operations.

GSA helps keep the nation safe by providing tools, equipment, and non-tactical vehicles to the U.S. military, and providing state and local governments with law enforcement equipment, firefighting and rescue equipment, and disaster recovery products and services.

GSA was established by President Harry Truman on July 1, 1949, to streamline the administrative work of the federal government. GSA consolidated the National Archives Establishment, the Federal Works Agency, and the Public Buildings Administration; the Bureau of Federal Supply and the Office of Contract Settlement; and the War Assets Administration into one federal agency tasked with administering supplies and providing workplaces for federal employees.

GSA's original mission was to dispose of war surplus goods, manage and store government records, handle emergency preparedness, and stockpile strategic supplies for wartime. GSA also regulated the sale of various office supplies to federal agencies and managed some unusual operations, such as hemp plantations in South America.

Today, through its two largest offices – the Public Buildings Service and the Federal Acquisition Service – and various staff offices, GSA provides workspace to more than 1 million federal civilian workers, oversees the preservation of more than 480 historic buildings, and facilitates the federal government's purchase of high-quality, low-cost goods and services from quality commercial vendors.

1950s and 1960s

In the 1950s, GSA took on a major overhaul of the White House. "Really it was more than a renovation; it was a rebuilding," recalled inaugural Administrator Jess Larson.

GSA took on the critical assignment of emergency preparedness and began stockpiling strategic materials to be used in wartime. GSA retained various emergency management functions until they were transferred to the Federal Emergency Management Agency in 1979.

In 1960, GSA created the Federal Telecommunications System, a government-wide intercity telephone system. In 1962, the Ad Hoc Committee on Federal Office Space recommended a major new building program to address obsolete office buildings in Washington, D.C., resulting in the construction of many of the offices that now line Independence Avenue.

1970s and 1980s

In 1970, the Nixon administration created the Consumer Product Information Coordinating Center. Now called the Federal Citizen Information Center, FCIC has distributed millions of consumer information publications from its Pueblo, Colorado facility.

Authorized in 1971, the Federal Buildings Fund became operational in 1974 when GSA issued its first rent bills to federal agencies. In 1972, GSA established the Automated Data and Telecommunications Service, which evolved into the Office of Information Resources Management 10 years later.

GSA also became involved in administrative policy issues. In 1973, GSA created the Office of Federal Management Policy. GSA's Office of Acquisition Policy centralized procurement policy in 1978. In 1985 GSA began to provide government-wide policy oversight and guidance for federal real property management as a result of an Executive Order signed by President Ronald Reagan.

In 1984, GSA introduced the federal government to the use of charge cards. Today, the GSA SmartPay program has more than 3 million card holders. In 1987, GSA opened its first child care center, and now manages 110 federal child care facilities for more than 8,300 children across the country.

By 1995, all of GSA's policy functions had been merged into the Office of Government-wide Policy, which sets policy in the areas of personal and real property, travel, transportation, information technology, regulatory information, and use of federal advisory committees.

1990s

Inspired by the "Guiding Principles for Federal Architecture," written in 1962 by the late U.S. Sen. Daniel Patrick Moynihan of New York, in 1994 GSA's Public Building Service introduced the Design Excellence Program to streamline the way it selects architects and engineers for major construction projects. The program has resulted in outstanding and enduring examples of federal architecture.

In 1995, GSA formed the Courthouse Management Group to manage the largest courthouse construction project in 50 years. The project has resulted in the renovation or rebuilding of federal courthouses across the nation.

Early 2000s

As the agency transformed itself to enter the 21st century, GSA embraced new technologies, launched electronic government initiatives, and helped develop means of doing government business on the Internet. GSA assumed responsibility for President George W. Bush's E-Gov Initiatives: E-Authentication, E-Gov Travel, Federal Asset Sales, and the Integrated Award Environment in 2001.

In 2007, GSA consolidated the Federal Telecommunication Service into the Federal Acquisition Service to better align the delivery of its services in an ever-changing business world.

In 2009, a new Office of Citizen Services and Innovative Technologies was created to foster public engagement by using innovative technologies to connect the public to government information and services. The list of GSA citizen-focused websites and social media outreach efforts continued to grow.

2010s

A 2009-2010 milestone was the implementation of the American Recovery and Reinvestment Act efforts. With the goal of transforming federal buildings into high-performing green buildings, GSA completed work at over 500 Recovery Act projects< in all 50 states, the District of Columbia, the U.S. Virgin Islands, and Puerto Rico. With a strong program that emphasized stewardship, oversight, and transparency, and teams that used creative, integrated systems thinking, GSA completed an unprecedented amount of work in a short time.

GSA's ARRA program covered a variety of work, including mechanical upgrades, new lighting, window replacements, cool or green roofs, water-saving fixtures, onsite renewable energy, and necessary repairs. Green building features and practices can show measurable improvements in areas including recycling, sustainable products and materials, overall operation and maintenance costs, and water use.

GSA also installed 30 vegetated "green roofs" through ARRA investments. Green roofs absorb more of the sun's heat to help keep urban areas cooler and healthier for people, and reduce flooding by retaining stormwater that would otherwise overload sewers or flow untreated into waterways.

The results speak for themselves:

- Buildings with completed projects are now 22 percent more energy efficient than they were before ARRA.

- The savings are enough to provide electricity to more than 60,000 U.S. homes, and the greenhouse gas reductions are equivalent to taking 76,000 cars off the road.

•Affected facilities are now using 27 percent less energy per square foot than an average commercial office building, and are even outperforming their ARRA projects' design energy targets by seven percent.

These efficiency improvements make economic sense, saving taxpayers over $68 million per year in utility costs alone.

Finally, a key Recovery Act goal was to serve as an economic catalyst. To advance economic and social benefits in communities across America, GSA selected projects where work could begin quickly, and contracted with competitively-selected private sector architecture, engineering, and construction firms. More than 60 percent of the firms contracted for GSA's ARRA program were small businesses. Construction of the new U.S. Courthouse in Bakersfield, California, for example, created more than 650 construction jobs, and workers spent up to $200,000 per month of their own income in the local community.

In 2010, GSA became the first federal agency to move email to a cloud-based system, which reduced inefficiencies and lowered costs by 50 percent.

President Barack Obama's Open Government Directive instructed federal agencies to actively open their operations to the public. To that end, GSA developed Data.gov, a website to foster democracy, information sharing, and transparency. Already, entrepreneurs across the country have used this open data in new and innovative ways:

•FarmPlenty helps farmers better analyze U.S. Department of Agriculture (USDA) open data on crops grown within a five mile radius of their farms. Inspired by his conversations with farmers on the challenges faced in predicting crop yields and consumer demand, founder George Lee built his application as part of the USDA-Microsoft Innovation Challenge. His Grand Prize-awarded application is supported by the USDA's National Agricultural Statistics Service (NASS) CropScape and Quickstats APIs.

•Students are able to compare the cost of college with other significant data points, such as graduation rates and average salaries of graduates to determine where to get the most bang for their buck.

•Communities can map demographic, income, and school data to promote Fair Housing.

•Patients can find information on the safety and cost of hospitals, nursing homes, and physicians, empowering them to make smarter health care choices.

In 2012 – for the seventh year in a row – GSA was named to the Top 10 Best Places to Work in Federal Government by the Partnership for Public Service.

GSA has been on the forefront of environmental, energy, and economic performance by making our portfolio of federal buildings more energy efficient through an array of strategies including Energy Savings Performance Contracts, advanced metering, the Green Proving Ground Program, and EPA's ENERGY STAR programs.

During this time, GSA also pushed to the forefront of transforming the way the federal government operates by introducing new technologies, smarter acquisition platforms, and innovative workspace.

In 2013, GSA launched a comprehensive service to create a 21st century workplace throughout the federal government. GSA's Total Workplace initiative provided resources and expertise to help federal agencies reduce office space, foster collaboration, better manage IT spending, and increase energy efficiency.

In addition to Total Workplace, GSA began managing the Presidential Innovation Fellows program. Like the White House Fellows, who have a permanent home in OPM, this important program now had a permanent home to help it grow and scale its impact. The highly-competitive program attracts top innovators to government to work on 12-month projects for various federal agencies. The PIF program pairs talented, diverse technologists and innovators with top civil-servants and change-makers working at the highest levels of the federal government to tackle some our nation's biggest challenges.

In January 2014, GSA took another step forward in increasing collaboration among government and industry by launching a new social media community on Interact.gsa.gov for its Government-wide Acquisition Contracts (GWACs).

In 2014, GSA continued to lead efforts to improve the operations of government. GSA continued to pursue the Federal Strategic Sourcing Initiative (FSSI), a program that created significant savings by leveraging the buying power of the federal government to drive down costs. This program would eventually be scaled into the agency's focus on Category Management, the Acquisition Gateway, and getting the government to "Act as One" when it comes to buying.

This same year, GSA announced the creation of 18F. 18F, a first of its kind startup within GSA, launched with a team of 15 designers, engineers, and product specialists focused on improving the federal government's digital services. Over the next 2 years, the team would grow to 200 as its product and client work increased.

In 2015, the Senate confirmed Denise Turner Roth to be the 39th administrator of GSA; she was sworn in on August 7, 2015. Prior to her role as Administrator, Denise Turner Roth served as the Deputy Administrator of GSA since 2014.

In August 17, 2015, President Obama signed an Executive Order making the Presidential Innovation Fellows (PIF) program permanent and gave it a home inside the GSA, and established a PIF Leadership Team to run the day-to-day and strategic operations of the program.

In November 2015, recognizing the significant real estate footprint of the agency in communities across the country, GSA launched a nationwide economic catalyst initiative to better align agency's building, leasing, and relocation plans with the economic development goals of local communities.

In early 2016, GSA launched the Acquisition Gateway as a way of helping federal government buyers from all agencies act as one acquisition community. Inside the Acquisition Gateway, users can find side-by-side comparisons of government-wide acquisition solutions, connect with other acquisition professionals, and explore product and service category "hallways." By September 2016, the Acquisition Gateway surpassed 10,000 registered users.

On April 6, 2016, GSA launched a series of new programs collectively called the "Making It Easier" (MIE) initiative. MIE makes it easier for new and innovative companies to do business with the government. It also provides small businesses with tools and support they need to do work with the government. Programs include the IT Schedule 70 Plain Language Roadmap, Welcome Package, FASt Lane, IT Schedule 70 Springboard, and Forecast Tool.

Further bolstering the U.S. government's innovation infrastructure, GSA announced the creation of the Technology Transformation Service (TTS) on May 3, 2016. TTS helps agencies navigate how to build, buy, and share user-centered and emerging technology solutions. TTS consolidated the agency's emerging technology efforts, including the Office of Citizen Services and Innovative Technologies, 18F, and the Presidential Innovation Fellows.

(Link: https://www.gsa.gov/portal/category/21354)

U.S. Geological Survey (USGS)

Created by an act of Congress in 1879, USGS has evolved over the ensuing 125 years, matching its talent and knowledge to the progress of science and technology. USGS is the sole science agency for the Department of the Interior. It is sought out by thousands of partners and customers for its natural science expertise and its vast earth and biological data holdings. The USGS serves the Nation by providing reliable scientific information to describe and understand the Earth; minimize loss of life and property from natural disasters; manage water, biological, energy, and mineral resources; and enhance and protect our quality of life.

As the Nation's largest water, earth, and biological science and civilian mapping agency, USGS collects, monitors, analyzes, and provides science about natural resource conditions, issues, and problems. Its diverse expertise enables it to carry out large-scale, multidisciplinary investigations and provide impartial scientific information to resource managers, planners, and other customers.

Mary C. Rabbitt authored a history of the relation of geology during the first 110 years of the U.S. Geological Survey to the development of public-land, Federal-science, and mapping policies and the development of mineral resources in the United States. The work is available on the USGS website (see https://pubs.usgs.gov/circ/c1050/) The following are excerpts from that work.

> *The United States Geological Survey was established on March 3, 1879, just a few hours before the mandatory close of the final session of the 45th Congress, when President Rutherford B. Hayes signed the bill appropriating money for sundry civil expenses of the Federal Government for the fiscal year beginning July 1, 1879. The sundry civil expenses bill included a brief section establishing a new agency, the United States Geological Survey, placing it in the Department of the Interior, and charging it with a unique combination of responsibilities: "classification of the public lands, and examination of the geological structure, mineral resources, and products of the national domain."1 The legislation stemmed from a report of the National Academy of Sciences, which in June 1878 had been asked by Congress to provide a plan for surveying the Territories of the United States that would secure the best possible results at the least possible cost. Its roots, however, went far back into the Nation's history.*
>
> *The first duty enjoined upon the Geological Survey by the Congress, the classification of the public lands, originated in the Land Ordinance of 1785. The original public lands were the lands west of the Allegheny Mountains claimed by some of the colonies, which became a source of contention in writing the Articles of Confederation until 1781 when the States agreed to cede their western lands to Congress. The extent of the public lands was enormously increased by the Louisiana Purchase in 1803 and later territorial acquisitions.*
>
> *The earliest geological surveys were made in support of agriculture, which was the basic occupation in the United States in the early 1800's. Manufacturing was then of importance only in a few areas, and mining was a quite insignificant part of the*

economy. Farmland in the Eastern and Southern States, however, was beginning to lose its fertility, and farmers were abandoning their holdings and moving westward. The westward migration increased to enormous proportions after the War of 1812.

In 1834, just a year before the Geological Survey of Great Britain was established, Congress authorized the first Federal examination of the geological structure, mineral resources, and products of the public lands by permitting the Topographical Bureau of the U.S. Army to use $5,000 of its appropriation for geological investigations and the construction of a geological map of the United States.

The discovery of gold gave great impetus to mining endeavors throughout the country, and this increased activity, combined with the prosperity after the Mexican War, interested several States in the South and the Midwest in establishing State geological surveys. It also made the development of better means of communication and transportation between the Eastern States and the western territories more urgent. In 1853, Congress appropriated $150,000 for surveys to ascertain the most practical and economical route for a railroad from the Mississippi River to the Pacific Ocean and authorized the Secretary of War to employ the Corps of Topographical Engineers to make the explorations and surveys. The Congress also took action on the mineral lands in California, excluding them from the General Land Office surveys, settlement or location on them.

By 1867, the developing industries were making radical demands on the Nation's natural resources. Joseph S. Wilson, the Commissioner of the General Land Office, in his annual report written in the fall of 1866, assessed at some length the mineral resources of the public domain, and afterward stated that the proper development of the geological characteristics and mineral wealth of the country was a matter of the highest concern to the American people. On March 2, 1867, Congress for the first time authorized western explorations in which geology would be the principal objective: a study of the geology and natural resources along the fortieth parallel route of the transcontinental railroad, under the Corps of Engineers, and a geological survey of the natural resources of the new State of Nebraska, under the direction of the General Land Office.

A committee of seven members appointed by the Academy recommended that the Coast and Geodetic Survey be transferred from the Department of the Treasury to the Department of the Interior, renamed the "Coast and Interior Survey," and be given responsibility for geodetic, topographic, and land-parceling surveys in addition to its existing work. The Academy committee also recommended that an independent organization, to be called the U.S. Geological Survey, be established in the Interior Department to study the geological structure and economic resources of the public domain.

The mining geology program began in 1879 with comprehensive studies of the geology and technology of three great mining districts--Leadville in Colorado, and the Comstock and Eureka in Nevada--and the collection of mineral statistics in the

Western States. In addition, through a cooperative arrangement with the Tenth Census, mineral statistics were collected in the Eastern States, iron resources in all parts of the country were systematically studied in the field and in the laboratory by a variety of techniques, including microscopic analysis, chemical analysis, and magnetic observations, and an effort was made to trace the continuation of the copper-bearing rocks of Michigan and Wisconsin through northeast Minnesota to the Canadian boundary. The investigations in general geology included the unfinished studies of the earlier surveys in the Colorado Plateau region, on the Quaternary history of valleys in Utah, and on the geology of the Rocky Mountain region north of New Mexico and west of the 94th meridian.

At this critical point in its history, the Geological Survey was out of favor with Congress, with many American geologists, who felt that it had too often acted unilaterally, and with some elements of the mining industry, who felt that economic geology was being neglected. In a mood for economy, Congress in 1892 slashed appropriations for scientific agencies, especially those items which seemed to have little immediate practical purpose. The Geological Survey's appropriations for geologic surveys, paleontology, and chemistry and physics were drastically reduced, and several statutory positions were eliminated.

In 1900, a bill for establishment of a Department of Mines with the Survey as a nucleus was filed but not acted on. However, when Congress appropriated for the Survey 110 percent of the amount it had requested, the Geologic Branch was reorganized, and a Division of Mining and Mineral Resources was established.

In 1904, as the U.S. Geological Survey began its second quarter-century, the United States was in the early stages of a period of profound change just as it had been when the Survey began in 1879, but many of the problems facing the Nation in 1904 were very different from those of 1879. During the Survey's first 25 years, the United States had become an urban industrial world power. The population had increased from 48.9 million in 1879 to 81.8 million in 1904. The number of manufacturing establishments and the value of manufactured products had more than doubled during this period, and the value of the mineral products had increased from $365 million in 1879 to more than $1 billion in 1904. At the same time, settlement of the West had proceeded so rapidly that by 1890 the frontier had disappeared.

World War I reoriented conventional views on mineral resources. When the war began in August 1914, it was assumed that the conflict would last but a short time. The United States was believed to lack a known supply commensurate with its needs of only five minerals of first rank--tin, nickel, platinum, nitrates, and potash. On the other hand, the reserves of mineral fuels and iron were regarded as so enormous that no problems would arise. The Geological Survey, however, immediately increased its geologic mapping to aid the discovery of new oil fields or extension of known fields, but of the five scarce minerals actively sought only potash. The war at first disrupted normal trade relations, but before long, Europe was in urgent need of American agricultural products and then in still more urgent need of American steel,

copper, and explosives. Within 2 years, some minerals became difficult to obtain, and the Survey reoriented its work to aid the search for both metals and fuels.

Topographic mapping of strategic areas in accordance with military priorities was begun in 1940. In 1940 also, the State Department allotted funds to the Geological Survey to begin investigations in cooperation with other American republics to identify mineral deposits of potential importance in hemisphere trade.

The Japanese attack on Pearl Harbor on December 7, 1941, abruptly ushered the United States from defense to war and united Americans in a determination to defeat the Axis powers. For the next several years, the Geological Survey bent its entire energies to the war effort. The Geologic, Topographic, Water Resources, and Conservation Branches each made its own special contribution.

By 1950, the Geological Survey began undertaking investigations in new areas to meet the demand for current information. Geologic mapping was needed in fast-growing industrial areas to provide geologic data for the many types of engineering construction. The demand for construction of large dams to impound water for irrigation, power development, flood control, and industrial use focused attention on the need for information on the effect of waterloss by evaporation and the limitation of the useful life of reservoirs by deposition of sediment as well as on stream flow and sediment load. The heavy drain on ground-water resources during the war had resulted in critical conditions in many areas; saltwater encroachment was a subject of special concern in some coastal areas. Efforts to upgrade the Nation's highways required hydrologic data and flood studies to aid highway drainage design. When funds were appropriated for technical assistance programs, Survey scientists and engineers took on assignments in the Eastern Hemisphere, and the Survey extended its in-service training program in geology and the administration of research organizations for promising young scientists of Latin American countries to scientists of the Eastern Hemisphere countries.

For its 75th year, beginning July 1, 1954, the Survey had 7,000 employees, appropriated funds of $27,750,000, and total funds, including those from other Federal agencies and the States, of nearly $48.5 million. Its methods of work had changed markedly in the decade since the end of World War II. The Survey had been given responsibility by the Bureau of the Budget for the National Topographic Map Series of the United States and for exercising government-wide leadership in coordinated planning and execution of mapping activities of the Federal Government

Under the Kennedy-Johnson administration in the early 1960's, appropriations were increased significantly, and total funds available for the fiscal year beginning July 1, 1964, for the first time exceeded $100 million, more than double the amount available just a decade earlier. In 1964, the Geological Survey again prepared a long-range plan for its future. Research functions were obviously not susceptible to a

definite schedule, but some phases of the work, such as the topographic mapping of the Nation, were planned for orderly progression toward completion.

In 1974, the National Topographic Mapping Program became the National Mapping Program to meet the increasing demand for basic cartographic data in all forms including digital cartographic data. The National Cartographic Information Center was established to provide a focal point for information on U.S. maps and charts, aerial photographs and space imagery, geodetic control, and related cartographic data. The Geological Survey and the National Oceanic and Atmospheric Administration agreed on a program to produce topographic-bathymetric editions of the 1:250,000-scale maps for the coastal zones of the United States, including those of the Great Lakes.

Several changes in the Geological Survey's organization were made in fiscal year 1980. In the Office of the Director, the Land Information and Analysis Office was renamed the Office of Earth Science Applications, given more specific responsibilities to coordinate multidisciplinary multidivision programs, and strengthened by the transfer of some elements of the former Publications Division. The National Mapping Division was formed from the Topographic Division, parts of the Publications Division, and the Geography Program of the former Land Information and Analysis Office. The organization of the Conservation Division was modified to separate onshore from offshore program management, increase the number of geographic service areas, and separate royalty management from field operations.

(Link: https://pubs.usgs.gov/circ/c1050/)

Council of the Inspectors General on Integrity and Efficiency (CIGIE)

The Council of the Inspectors General on Integrity and Efficiency (CIGIE) was statutorily established as an independent entity within the executive branch by the "The Inspector General Reform Act of 2008," P.L. 110-409 to:

- address integrity, economy, and effectiveness issues that transcend individual Government agencies; and

- increase the professionalism and effectiveness of personnel by developing policies, standards, and approaches to aid in the establishment of a well-trained and highly skilled workforce in the offices of the Inspectors General.

To accomplish its mission, the CIGIE:

- continually identify, review, and discuss areas of weakness and vulnerability in Federal programs and operations with respect to fraud, waste, and abuse;

- develop plans for coordinated, Government-wide activities that address these problems and promote economy and efficiency in Federal programs and operations, including interagency and interentity audit, investigation, inspection, and evaluation programs and projects to deal efficiently and effectively with those problems concerning fraud and waste that exceed the capability or jurisdiction of an individual agency or entity;

- develop policies that will aid in the maintenance of a corps of well-trained and highly skilled Office of Inspector General personnel;

- maintain an Internet website and other electronic systems for the benefit of all Inspectors General;

- maintain 1 or more academies as the Council considers desirable for the professional training of auditors, investigators, inspectors, evaluators, and other personnel of the various offices of Inspector General;

- submit recommendations of individuals to the appropriate appointing authority for any appointment to an office of Inspector General described under subsection (b)(1)(A) or (B);

- make such reports to Congress as the Chairperson determines are necessary or appropriate; and

- perform other duties within the authority and jurisdiction of the Council, as appropriate.

•The CIGIE is comprised of all Inspectors General whose offices are established under section 2 or section 8G of the Inspector General Act of 1978 (5 U.S.C. App.), those that are Presidentially-appointed/Senate Confirmed and those that are appointed by agency heads (designated federal entities). The Deputy Director for Management of the Office of Management and Budget is the Executive Chair of the Council. The Chair of the Council is elected by the Council members to serve a 2 year term. The Chair appoints a Vice Chair from other than the category from which the Chair was elected. Other statutory members of the CIGIE include: the Inspectors General of the Office of the Director of National Intelligence and the Central Intelligence Agency, the Controller of the Office of Federal Financial Management, a senior level official of the Federal Bureau of Investigation designated by the Director of the Federal Bureau of Investigation, Director of the Office of Government Ethics, Special Counsel of the Office of Special Counsel, the Deputy Director of the Office of Personnel Management, the Inspectors General of the Library of Congress, Capitol Police, Government Publishing Office, Government Accountability Office, and the Architect of the Capitol. Prior to the establishment of the CIGIE, the Federal Inspectors General operated under the auspices of two councils, The President's Council on Integrity and Efficiency (PCIE) and the Executive Council on Integrity and Efficiency (ECIE) from the time they were established by Executive Order 12805, May 11, 1992 until the signing of P.L. 110-409.

Membership:

•All Inspectors General (IGs) whose offices are established under either section 2 or section 8G of the IG Act, or pursuant to other statutory authority (e.g., the Special IGs for Iraq Reconstruction, Afghanistan Reconstruction, and Troubled Asset Relief Program)..

•The IGs of the Intelligence Community and the Central Intelligence Agency.

•The IGs of the Government Printing Office, the Library of Congress, the Capitol Police, the Government Accountability Office, and the Architect of the Capitol.

•The Controller of the Office of Federal Financial Management.

•A senior level official of the Federal Bureau of Investigation (FBI) designated by the Director of the FBI.

•The Director of the Office of Government Ethics.

•The Special Counsel of the Office of Special Counsel.

•The Deputy Director of the Office of Personnel Management.

•The Deputy Director for Management of the Office of Management and Budget (OMB).

At the option of the Chairperson, after considering advice from the Executive Council, representatives of other Government organizations may be invited to attend, observe, or contribute to Council meetings and activities.

IG Act History

October 12, 1978

The IG Act of 1978 is enacted by President Jimmy Carter, who signed the Act and described the new statutory IGs as "perhaps the most important new tools in the fight against fraud." President Carter charges the IGs to always remember that their ultimate responsibility is not to any individual but to the public interest.

March 26, 1981

President Ronald Reagan established the President's Council on Integrity and Efficiency (PCIE) through Executive Order 12301. PCIE was charged with developing plans for coordinated Government-wide activities which attack fraud and waste in Government programs and operations, among other responsibilities.

October 18, 1988

The IG Act was amended, creating 30 additional OIGs at designated agencies, providing essentially the same powers and duties as those appointed by the President; however, these IGs are appointed by, and can be removed by, the agency head.

May 11, 1992

President George H.W. Bush established the Executive Council on Integrity and Efficiency (ECIE) for agency appointed IGs, and reconstituted the PCIE, through Executive Order 12805. ECIE and PCIE were charged with the responsibility to continually identify, review, and discuss areas of weakness and vulnerability in Federal programs and operations to reduce fraud, waste, and abuse, and develop plans for coordinated, Governmentwide activities that address these problems and promote economy and efficiency in Federal programs and operations, among other responsibilities.

March 21, 1996

President William J. Clinton established an Integrity Committee responsible for administering the procedures for investigating allegations of wrongdoing by individual IGs.

November 25, 2002

The Homeland Security Act of 2002 is enacted by President George W. Bush, transferring the Federal Emergency Management Agency functions to the Department of Homeland Security. Further, the Act amended the IG Act of 1978 authorizing the exercise of law enforcement authority, including carrying firearms, making arrests, and executing warrants, to special agents of 24 Presidentially-appointed OIGs. Additionally, the Act included provisions to enable other OIGs to qualify for law enforcement authority. Prior to this Act, four other OIGs possessed law enforcement authority pursuant to separate legislation.

October 14, 2008

The IG Reform Act of 2008 is enacted by President George W. Bush, establishing the CIGIE as the unified council of all statutory IGs with the mission to address integrity, economy, and effectiveness issues that transcend individual Government agencies; and increase the professionalism and effectiveness of personnel by developing policies, standards, and approaches to aid in the establishment of a well-trained and highly skilled workforce in the offices of the Inspectors General.

February 17, 2009

The American Recovery and Reinvestment Act of 2009 is enacted by President Barack Obama, establishing appropriations for job preservation and creation, infrastructure investment, energy efficiency and science, assistance to the unemployed, and State and local fiscal stabilization, for the fiscal year ending September 30, 2009. Additionally, the Act established the Recovery Act Accountability and Transparency Board consisting of the Chairperson and 10 IGs, and any other IGs designated by the President.

July 21, 2010

The Dodd Frank Wall Street Reform and Consumer Protection Act of 2010 is enacted by President Barack Obama, establishing, among other things, that designated Federal entities consisting of a board or commission, are considered heads of their agencies with respect to the appointment of those entities' IGs. Further, that for removal of such an IG requires a written concurrence of two-thirds of the board or commission.

October 7, 2010

The Intelligence Authorization Act for FY 2010 is enacted by President Barack Obama, establishing the Intelligence Community Inspector General and establishing the four Defense Intelligence components as designated Federal entities under the IG Act of 2008. Through enactment, all five of these IGs became members of the CIGIE.

November 27, 2012

The Whistleblower Protection and Enhancement Act of 2012 is enacted by President Barack Obama, establishing that each Presidentially-appointed Senate-confirmed IG shall designate a Whistleblower Protection Ombudsman responsible for educating agency employees about prohibitions on retaliation for protected disclosures and the rights and remedies against retaliation for protected disclosures.

•IGs are appointed without regard to their political affiliation.
•The appointment is based on integrity and ability in: •accounting, auditing, financial analysis;
•law, management analysis, public administration; or investigations.

The President nominates IGs at Cabinet-level departments and major agencies with Senate confirmation. These IGs can only be removed by the President. The agency heads appoint and can remove IGs at designated Federal entities. Both houses of Congress must be notified if an IG is removed by the President or an agency head.

IGs issue a variety of written reports such as:

•Audit, investigative, and inspection/evaluation reports prepared in accordance with professional standards;
•Semiannual reports to the Congress that describe the work of the OIG within the reporting period; and
•Immediate correspondence to the agency head to report egregious and flagrant problems and/or abuses. The agency head then transmits this reporting, along with any comments by the agency head, to the Congress within seven days.

IGs also must report:

•Any unreasonable refusal within the agency to provide information to the agency head, or

•Suspected violations of Federal criminal law to the Attorney General

•IGs look independently at problems and possible solutions.

•They issue fact-filled reports based on professional audit, investigative, and inspection standards.

•They provide technical and/or consultative advice as new plans are developed.

•They can perform independent investigation of allegations, as requested by the agency head.

•IGs maintain Hotlines for employees and others to report confidential information regarding allegations of fraud and abuse

(Link: https://www.ignet.gov/content/charter)

National Wildlife Refuge System

If you travel much in the wilder sections of our country, sooner or later you are likely to meet the sign of the flying goose-the emblem of the National Wildlife Refuges.

You may meet it by the side of a road crossing miles of flat prairie in the middle West, or in the hot deserts of the Southwest. You may meet it by some mountain lake, or as you push your boat through the winding salty creeks of a coastal marsh.

Wherever you meet this sign, respect it. It means that the land behind the sign has been dedicated by the American people to preserving, for themselves and their children, as much of our native wildlife as can be retained along with our modern civilization.

Wild creatures, like men, must have a place to live. As civilization creates cities, builds highways, and drains marshes, it takes away, little by little, the land that is suitable for wildlife. And as their space for living dwindles, the wildlife populations themselves decline. Refuges resist this trend by saving some areas from encroachment, and by preserving in them, or restoring where necessary, the conditions that wild things need in order to live.

The Early Years (1864 - 1920)

By Executive Order of March l4, l903, President Theodore Roosevelt established Pelican Island National Wildlife Refuge, along Florida's central Atlantic coast, as the first unit of the present National Wildlife Refuge System. It is misleading, however, to conclude that this was the genesis of wildlife sanctuaries in the United States.

There is no clear documentation of just when the concept of protecting wildlife through habitat preservation was born, but as long ago as the mid-l800's, diaries of early western explorers, pictorial records and reports from journalists and speakers familiar with the West brought a public realization that the unrestricted slaughter of wildlife for food, fashion and commerce was systematically destroying an irreplaceable national heritage.

The first Federal action aimed in part at protecting wildlife resources on a designated area appears to be an Act of Congress on June 30, 1864, that transferred the Yosemite Valley from the public domain to the State of California. One of the terms of the transfer was that State authorities "shall provide against the wanton destruction of the fish and game found within the said reservation and against their capture and destruction for purposes of merchandise or profit."

Yosemite Valley was later returned to the Federal government. In l872, Yellowstone National Park was established, primarily to protect the area's hot springs and geysers, but again, the "wanton destruction" of wildlife was forbidden. Establishment as a national park did not, however, produce the desired wildlife protection effect until passage of the Yellowstone Park Protection Act of l894.

The earliest effort to set aside an area of Federally-owned land specifically for wildlife occurred in l868 when President Ulysses S. Grant took action to protect the Pribilof Islands in Alaska as a

reserve for the northern fur seal. In l869, the Congress formally enacted legislation for this purpose. These remote islands in the Bering Sea were the site of the world's largest rookery of this commercially valuable animal, and the Federal government was prompted in its action primarily due to interest in obtaining revenue from the management of the fur resource. Fundamentally, this action marked a formal recognition of the need to protect and manage wildlife resources for their renewable values.

Under provisions of the Forest Reservation Creation Act of March 3, l88l, President Benjamin Harrison created by an Executive Order the Afognak Island Forest and Fish Culture Reserve in Alaska, "including its adjacent bays and rocks and territorial waters, including among others the sea lion and sea otter islands." The action showed, in its executive history, that wildlife concerns were a paramount element in the proposal. However, possibly because of the emphasis on forest and fish resource protection, the value of this area as a wildlife refuge often escapes deserved recognition. This order also established the first reservation for fish.

As a result of an increasing awareness of the importance of fish and wildlife resources, in 1871 the Federal Office of Commissioner of Fisheries and in 1886 the Division of Economic Ornithology and Mammalogy (Department of Agriculture) were established to gain better information about the Nation's fish and wildlife resources. From studies performed by these agencies it became evident that the resources were in jeopardy and conservation, sportsmen's and scientific organizations began to lobby the Congress.

One such organization was the Boone and Crockett Club, founded in l887 by a group of leading explorers, writers, scientists and political leaders, including Theodore Roosevelt. Roosevelt's activities during the l880's and l890's placed him in the mainstream of events concerning the plight of fish and wildlife and other natural resources from coast to coast. He was acquainted with resource management needs and with the many individuals, organizations and agencies that were in the forefront of efforts to stem the losses. Thus, when he became President in l90l, he was singularly well-suited to the task of natural resource protection.

By the turn of the century the nation had witnessed the near extinction of the bison, increasing devastation of wading bird populations by plume hunters in Florida, and severe reductions in the populations of other once abundant forms of wildlife such as the passenger pigeon. Public support increased for more vigorous actions on the part of the government to reverse this downward slide.

In Florida, in an effort to control plume hunting, the American Ornithologists Union and the National Association of Audubon Societies (now the National Audubon Society) persuaded the State Legislature to pass a model non-game bird protection law in 1901. These organizations then employed wardens to protect rookeries, in effect establishing colonial bird sanctuaries.

Such public concern, combined with the conservation-minded President Roosevelt, resulted in the initial Federal land specifically set aside for a non-marketable form of wildlife (the brown pelican) when 3-acre Pelican Island was proclaimed a Federal Bird Reservation in l903. Thus, it is said to be the first bona fide "refuge." The first warden employed by the government at Pelican Island, Paul Kroegel, was an Audubon warden whose salary was $1 a month.

Following the modest trend begun with Pelican Island, many other islands and parcels of land and water were quickly dedicated for the protection of various species of colonial nesting birds that were being destroyed for their plumes and other feathers. Such refuge areas included Breton, Louisiana (1904), Passage Key, Florida (1905), Shell Keys, Louisiana (l907), and Key West, Florida (1908).

The need for sound management of these reservations or refuges had become apparent as the knowledge of preservation and conservation requirements grew. In 1905, the Bureau of Biological Survey was established in the Department of Agriculture, replacing the old Division of Economic Ornithology and Mammalogy, with responsibility for new reservations and "set-aside" areas.

During this period of time, on the Pacific coast sea bird populations were declining due to their extensive exploitation for eggs, feathers and guano. In response to this growing bird resource threat, Federal reserve status was granted to Quillayute Needles, Washington in 1907 and to Farallon Islands, California and areas of the Hawaiian Islands in l909. Establishment of Lower Klamath, California in l908 then marked the beginning of the practice of creating wildlife refuges on Bureau of Reclamation reservoirs. Seventeen such western "overlay" refuges were established on one day alone in l909 by Executive Order l032 of February 25. By the end of his administration in l909, Roosevelt had issued a total of 5l Executive Orders that established wildlife reservations in l7 states and three territories.

Congress also had continued to respond to the public mood recognized by Roosevelt in establishing the Wichita Mountains Forest and Game Preserve in l905, the National Bison Range in l908, and the National Elk Refuge in l9l2. The latter was the first unit of the present system to be referred to as a "refuge." The Izaak Walton League had initiated establishment of the National Elk Refuge by purchasing lands which they then donated to the government as a nucleus for the refuge. At the time it was said that elk were so plentiful that they were killed for their prized teeth alone, which brought as much as $l,500 a pair. Then in l9l3, some 2.7 million acres were set aside in one action by President William Howard Taft when the vast Aleutian Island chain was added to the system.

The Federal government first exerted authority over migratory birds by legislation, the Migratory Bird Act, enacted in l9l3 to protect migratory bird species. An interesting historical footnote is that this landmark legislation was attached as a rider to an agricultural appropriation bill and signed unknowingly by outgoing President Taft. Subsequently, the Migratory Bird Treaty was concluded between the United States and Great Britain (for Canada) in 19l6. This treaty, implemented by Congress in l9l8, created an even larger role for the Federal government in managing migratory birds.

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There is no clear documentation of just when the concept of protecting wildlife through habitat preservation was born, but as long ago as the mid-l800's, diaries of early western explorers, pictorial records and reports from journalists and speakers familiar with the West brought a public realization that the unrestricted slaughter of wildlife for food, fashion and commerce was systematically destroying an irreplaceable national heritage.

The first Federal action aimed in part at protecting wildlife resources on a designated area appears to be an Act of Congress on June 30, 1864, that transferred the Yosemite Valley from the public domain to the State of California. One of the terms of the transfer was that State authorities "shall provide against the wanton destruction of the fish and game found within the said reservation and against their capture and destruction for purposes of merchandise or profit."

Yosemite Valley was later returned to the Federal government. In l872, Yellowstone National Park was established, primarily to protect the area's hot springs and geysers, but again, the "wanton destruction" of wildlife was forbidden. Establishment as a national park did not, however, produce the desired wildlife protection effect until passage of the Yellowstone Park Protection Act of l894.

The earliest effort to set aside an area of Federally-owned land specifically for wildlife occurred in l868 when President Ulysses S. Grant took action to protect the Pribilof Islands in Alaska as a reserve for the northern fur seal. In l869, the Congress formally enacted legislation for this purpose. These remote islands in the Bering Sea were the site of the world's largest rookery of this commercially valuable animal, and the Federal government was prompted in its action primarily due to interest in obtaining revenue from the management of the fur resource. Fundamentally, this action marked a formal recognition of the need to protect and manage wildlife resources for their renewable values.

Under provisions of the Forest Reservation Creation Act of March 3, l88l, President Benjamin Harrison created by an Executive Order the Afognak Island Forest and Fish Culture Reserve in Alaska, "including its adjacent bays and rocks and territorial waters, including among others the sea lion and sea otter islands." The action showed, in its executive history, that wildlife concerns were a paramount element in the proposal. However, possibly because of the emphasis on forest and fish resource protection, the value of this area as a wildlife refuge often escapes deserved recognition. This order also established the first reservation for fish.

As a result of an increasing awareness of the importance of fish and wildlife resources, in 1871 the Federal Office of Commissioner of Fisheries and in 1886 the Division of Economic Ornithology and Mammalogy (Department of Agriculture) were established to gain better information about the Nation's fish and wildlife resources. From studies performed by these agencies it became evident that the resources were in jeopardy and conservation, sportsmen's and scientific organizations began to lobby the Congress.

One such organization was the Boone and Crockett Club, founded in l887 by a group of leading explorers, writers, scientists and political leaders, including Theodore Roosevelt. Roosevelt's activities during the l880's and l890's placed him in the mainstream of events concerning the plight of fish and wildlife and other natural resources from coast to coast. He was acquainted with resource management needs and with the many individuals, organizations and agencies that were in the forefront of efforts to stem the losses. Thus, when he became President in l90l, he was singularly well-suited to the task of natural resource protection.

By the turn of the century the nation had witnessed the near extinction of the bison, increasing devastation of wading bird populations by plume hunters in Florida, and severe reductions in the populations of other once abundant forms of wildlife such as the passenger pigeon. Public support increased for more vigorous actions on the part of the government to reverse this downward slide.

In Florida, in an effort to control plume hunting, the American Ornithologists Union and the National Association of Audubon Societies (now the National Audubon Society) persuaded the State Legislature to pass a model non-game bird protection law in 1901. These organizations then employed wardens to protect rookeries, in effect establishing colonial bird sanctuaries.

Such public concern, combined with the conservation-minded President Roosevelt, resulted in the initial Federal land specifically set aside for a non-marketable form of wildlife (the brown pelican) when 3-acre Pelican Island was proclaimed a Federal Bird Reservation in l903. Thus, it is said to be the first bona fide "refuge." The first warden employed by the government at Pelican Island, Paul Kroegel, was an Audubon warden whose salary was $1 a month.

Following the modest trend begun with Pelican Island, many other islands and parcels of land and water were quickly dedicated for the protection of various species of colonial nesting birds that were being destroyed for their plumes and other feathers. Such refuge areas included Breton, Louisiana (1904), Passage Key, Florida (1905), Shell Keys, Louisiana (l907), and Key West, Florida (1908).

The need for sound management of these reservations or refuges had become apparent as the knowledge of preservation and conservation requirements grew. In 1905, the Bureau of Biological Survey was established in the Department of Agriculture, replacing the old Division of Economic Ornithology and Mammalogy, with responsibility for new reservations and "set-aside" areas.

During this period of time, on the Pacific coast sea bird populations were declining due to their extensive exploitation for eggs, feathers and guano. In response to this growing bird resource threat, Federal reserve status was granted to Quillayute Needles, Washington in 1907 and to Farallon Islands, California and areas of the Hawaiian Islands in l909. Establishment of Lower Klamath, California in l908 then marked the beginning of the practice of creating wildlife refuges on Bureau of Reclamation reservoirs. Seventeen such western "overlay" refuges were established on one day alone in l909 by Executive Order l032 of February 25. By the end of his administration in l909, Roosevelt had issued a total of 5l Executive Orders that established wildlife reservations in l7 states and three territories.

Congress also had continued to respond to the public mood recognized by Roosevelt in establishing the Wichita Mountains Forest and Game Preserve in l905, the National Bison Range in l908, and the National Elk Refuge in l912. The latter was the first unit of the present system to be referred to as a "refuge." The Izaak Walton League had initiated establishment of the National Elk Refuge by purchasing lands which they then donated to the government as a nucleus for the refuge. At the time it was said that elk were so plentiful that they were killed for their prized teeth alone, which brought as much as $1,500 a pair. Then in l913, some 2.7 million acres were set aside in one action by President William Howard Taft when the vast Aleutian Island chain was added to the system.

The Federal government first exerted authority over migratory birds by legislation, the Migratory Bird Act, enacted in l913 to protect migratory bird species. An interesting historical footnote is that this landmark legislation was attached as a rider to an agricultural appropriation bill and signed unknowingly by outgoing President Taft. Subsequently, the Migratory Bird Treaty was concluded between the United States and Great Britain (for Canada) in 1916. This treaty, implemented by Congress in l918, created an even larger role for the Federal government in managing migratory birds.

New Directions, New Opportunities (l956 - l996)

The Fish and Wildlife Act of l956 established a comprehensive national fish and wildlife policy and broadened the authority for acquisition and development of refuges. The funds necessary to implement this authority, however, were not immediately forthcoming. Without increased funding, land acquisition during the l950's could not keep pace with the high rate of drainage (primarily due to intensive agricultural development) of waterfowl breeding habitat in the prairie pothole country.

To remedy this situation, Congress passed an amendment to the Duck Stamp Act in 1958 which authorized the Waterfowl Production Area (WPA) program. To fund the WPA program and accelerate the wetland preservation effort, Congress also passed the Wetlands Loan Act of 1961. As later amended, this Act authorized a loan of $200 million to be spent over a period of 23 years and to be repaid from duck stamp revenues.

Recognizing new public demands for recreational activities after World War II, Congress passed the Refuge Recreation Act of l962. This Act authorized the recreational use of refuges when such uses did not interfere with the area's primary purposes and when sufficient funds were available to conduct recreational activities. The Act also clarified the appropriateness of public use on refuges, encouraged efforts to provide wildlife-oriented recreation, interpretation and environmental education activities, and required that such uses be compatible with the purposes for which the lands were acquired.

Perhaps the law of greatest significance to wildlife refuges since the Migratory Bird Conservation Act of 1929 has been the National Wildlife Refuge System Administration Act of l966. The Act provided guidelines and directives for administration and management of all areas

in the system including "wildlife refuges, areas for the protection and conservation of fish and wildlife that are threatened with extinction, wildlife ranges, game ranges, wildlife management areas, and waterfowl production areas."

In addition, the 1966 law established the standard of "compatibility," requiring that uses of refuge lands must be determined to be compatible with the purposes for which individual refuges were established. This standard was later strengthened and clarified in the National Wildlife Refuge System Improvement Act of 1997.

The Endangered Species Act of l973 also redirected management emphasis on some refuges. It is considered the world's foremost law protecting species faced with extinction. This Act has provided extensive means of protection for endangered species (including penalties for harming endangered animals, review and compliance obligations for various Federal agency programs, and the listing of species eligible for protection). Over 25 new refuges have been added to the NWRS under this authority including Attwater Prairie Chicken, Texas, Mississippi Sandhill Crane, Mississippi, Columbian White-tailed Deer, Washington, and Crocodile Lake, Florida.

The Alaska Native Claims Settlement Act of l97l (ANCSA), an outgrowth of the Alaska Statehood Act, is a law of enormous importance to the National Wildlife Refuge System. Among numerous other provisions, it authorized the addition of immense acreages of highly productive, internationally significant wildlife lands to the NWRS. Further far-reaching resource protection measures for Alaska were mandated by Congress in the passage on December 2, l980, of the Alaska National Interest Lands Conservation Act (ANILCA). The Act added nine new refuges, expanded seven existing refuges and added 53.7 million acres to the NWRS. This Act alone nearly tripled the acreage of lands encompassed in the Refuge System.

Approaching the Centennial (1997 and on)

In 1997, Congress provided much-needed organic legislation with the passage of the National Wildlife Refuge System Improvement Act. This legislation amended the National Wildlife Refuge System Administration Act of 1966 and provided significant new guidance for the management of the Refuge System. It provided a new statutory mission statement and directed that the Refuge System be managed as a national system of lands and waters devoted to conserving wildlife and maintaining biological integrity of ecosystems. The law also clarified management priorities by declaring that certain wildlife-dependent recreational uses are appropriate activities on refuges, strengthened the compatibility determination process, and required the Service to undertake comprehensive conservation planning for each refuge.

From the earliest years national wildlife refuges have played a major role in the evolution of resource conservation in the United States. The National Wildlife Refuge System now comprises more than 520 units in all 50 states, American Samoa, Puerto Rico, the Virgin Islands, the Johnson Atoll, Midway Atoll and several other Pacific Islands. Refuges now encompass over 93 million acres of valuable wildlife habitat.

Included in this total are nearly l.9 million acres of wetlands in the prairie pothole region of the north-central United States. These wetlands are known as "waterfowl production areas," and have Federal protection through fee acquisition or easements. This vital habitat, together with the wetlands of the Canadian prairies and Alaska, provides the key production areas where the bulk of North America's waterfowl nest and rear their young.

Wilderness designation also helps protect diverse refuge areas including islands, lakes, forests, deserts, and mountains. Currently, 20.6 million acres of refuge lands have been designated as wilderness under provisions of the Wilderness Act of 1964. The Act states that these Congressionally-designated areas "... shall be administered for the use and enjoyment of the American people in such a manner as will leave them unimpaired for future use and enjoyment as wilderness."

The history of the Refuge System is the history of farsighted actions, untiring efforts, and generous donations from untold numbers of dedicated individuals from both government and private sectors. These individuals have recognized that our wildlife resources are an invaluable national heritage. They have collectively pressed for their protection and won, often against conflicting interests. As we approach the Refuge System's Centennial in 2003, it is a good time to reflect upon the collective efforts of these dedicated people in creating what is regarded as the largest and most outstanding wildlife conservation program in the world -- the National Wildlife Refuge System.

(Link: https://www.fws.gov/refuges/history/over/over_main_fs.html)

National War College (NWC)

The NWC mission is to educate future leaders of the Armed Forces, Department of State, and other civilian agencies for high-level policy, command and staff responsibilities by conducting a senior-level course of study in national security strategy.

The curriculum emphasizes the joint and interagency perspective. Reflecting this emphasis, 59 percent of the student body is composed of equal representation from the land, air, and sea (including Marine and Coast Guard) Services. The remaining 41 percent are drawn from the Department of State and other federal departments and agencies, and international fellows from a number of foreign countries.

The Commandant, a military officer of one-star rank, occupies a nominative position that rotates among the Army, Navy, and Air Force. As joint sponsor of the National War College, the Department of State nominates a Foreign Service officer with Ambassadorial rank to serve as the Commandant's Deputy and International Affairs Adviser. This position was inaugurated by the great diplomat-scholar George F. Kennan, whose thirteen lectures delivered at the NWC in 1946 and 1947, as well as the paper that provided the intellectual underpinnings of the Containment Doctrine of the Cold War, can be read in Giles D. Harlow and George C. Maerz, editors, Measures Short of War: The George F. Kennan Lectures at the National War College, 1946-47 (Washington, DC: NDU Press, 1991).

In October 1945 Admiral Harry W. Hill was appointed as the first Commandant of the National War College and tasked with establishing a College for the postwar joint education of the armed forces. According to Lieutenant General Leonard T. Gerow, President of the Board which recommended its formation, "The College is concerned with grand strategy and the utilization of the Admiral Harry W. Hillnational resources necessary to implement that strategy...Its graduates will exercise a great influence on the formulation of national and foreign policy in both peace and war..."This theme was underscored with the participation of the State Department and, eventually, other government agency representatives into the faculty and student body.

The National War College mission is to prepare future leaders of the Armed Forces, State Department, and other civilian agencies for high-level policy, command, and staff responsibilities by conducting a senior-level course of study in national security strategy and national security policy. In furtherance of this mission, the College curriculum focuses on grand strategy – the integration of all elements of national power – as well as the theory and practice of war, fundamentals of strategic thinking for national security matters, the global security arena, the inter-agency decision-making process, contemporary military strategy, and joint and combined warfare. A fundamental strength of the College is its joint environment and approach. Students and faculty are drawn from all armed services and from civilian departments and agencies concerned with national security policies. The College program stresses "jointness" in military planning and operations and the interrelationship of domestic, foreign, and defense policies.

The National War College has occupied Roosevelt Hall since the founding of the College, except for 1998-99 during the Hall's renovation. The College was incorporated into the National

Defense University in 1976 when the latter was created as the country's pre-eminent joint professional military education center. In commemoration of the 70th anniversary the College is planning two important events beginning with a special evening to dedicate the west wing portion of Roosevelt Hall to become the "General Colin L. Powell" Wing on September 29, 2016, and concluding with a program in April that will unite all living former Commandants and Distinguished Alumni.

Construction of Roosevelt Hall commenced on February 21, 1903 and was completed in 1907. The design of the building moves out from the central rotunda with two wings extending to the east and west. These wings are116 feet long and lighted at each end by arched windows. The West Wing holds unobstructed views of the three-story west wall. It was originally established as the Army War College library with cast iron shelving established on the first floor. Over the years, the collection grew and the stacks increased in height to 5 levels accessed by nearly vertical cast iron stairs that reached the 3rd story floor of the building.

With the establishment of National Defense University in 1976-77, the libraries of the Industrial College of the Armed Forces and the National War College were consolidated into the NDU Library. The collections remained in the two colleges until the summer of 1991 when the books and periodicals were moved to NDU, Marshall Hall. From 1991 until 1998 the cast iron stacks remained in the West Wing for additional library storage space.

The 1998 reconstruction of the building resulted in a new look for the West Wing. Four offices were established for the 4 military service chairs, and the original cast iron stacks were used to accent furniture that modeled the wing as a grand study wing and event hall. The new General Colin L. Powell Wing will display awards from the General's illustrious career in both the military and federal government.

(Link: http://nwc.ndu.edu/About/Vision-Mission/)

Office of Government Ethics (OGE)

The U.S. Office of Government Ethics (OGE) oversees the executive branch ethics program and works with a community of ethics practitioners made up of over 4,500 ethics officials in more than 130 agencies to implement that program. When government decisions are made free from conflicts of interest, the public can have greater confidence in the integrity of executive branch programs and operations. To fulfill its mission, OGE:

- Advances a strong, uniform executive branch ethics program by interpreting and advising on ethics laws, policies, and program management; holding executive branch agencies accountable for carrying out an effective ethics program; contributing to the professional development of ethics officials; and modernizing and implementing the ethics rules and regulations.
- Contributes to the continuity of senior leadership in the executive branch by providing assistance to the President and the Senate in the Senate confirmation process for Presidential nominees; promoting leadership support of the ethics program; and supporting succession planning in the ethics community.
- Promotes transparency of the executive branch ethics program by raising the visibility of the ethics program and OGE, and by ensuring that ethics information is publicly available.

OGE's mission is one of prevention. OGE does not adjudicate complaints, investigate matters within the jurisdiction of Inspectors General and other authorities, or prosecute ethics violations. Click here to learn where to report misconduct. OGE is the supervising ethics office for the executive branch ethics program and has no jurisdiction over the ethics programs of the legislative or judicial branches of the federal government or state or local government ethics programs.

The Executive Branch Ethics Program: Roles and Responsibilities

In addition to the work done by OGE, the head of each executive branch agency, ethics officials, federal employees, and the public all have an important role in implementing the executive branch ethics program.

Agency leaders play a significant role in promoting an ethical culture and supporting an agency's ethics program. The head of each executive branch agency has primary responsibility for implementing the ethics program in that agency. To administer the day-to-day activities of the ethics program, each agency head appoints individuals to serve as the agency's Designated Agency Ethics Official (DAEO) and Alternate Designated Agency Ethics Official (ADAEO). Depending on the size of the agency, there may be additional professional ethics staff supporting the ethics program. Approximately 4,500 full-time and part-time ethics officials work in the executive branch to provide employees assistance in identifying and resolving potential conflicts

of interest. Their duties include collecting and reviewing employees' financial disclosure reports, providing employees with ethics training, counseling employees on ethics and standards of conduct issues, and maintaining compliant agency ethics programs.

Ultimately, it is the responsibility of each employee to understand and abide by the ethics laws and rules. Agency ethics officials are available to help each employee fulfill these responsibilities and to ensure that employees make decisions based on the public's interests rather than their own financial interests.

The public's role is to assist in holding government officials accountable for carrying out their duties free from conflicts of interest. In order to foster transparency, the ethics rules allow members of the public to access various government records, such as public financial disclosure reports, OGE ethics program review reports, and agency reports of travel payments provided by non-federal sources. With this information, the public can review the processes in place to detect and resolve conflicts of interest.

OGE Promotes Transparency of the Executive Branch Ethics Program
Promotes transparency of the executive branch ethics program by raising the visibility of the ethics program and OGE, and by ensuring that ethics information is publicly available.

OGE Contributes to the Continuity of Senior Leadership in the Executive Branch
Contributes to the continuity of senior leadership in the executive branch by providing assistance to the President and the Senate in the Senate confirmation process for Presidential nominees; promoting leadership support of the ethics program; and supporting succession planning in the ethics community.

OGE Advances a Strong, Uniform Executive Branch Ethics Program
Advances a strong, uniform executive branch ethics program by interpreting and advising on ethics laws, policies, and program management; holding executive branch agencies accountable for carrying out an effective ethics program; contributing to the professional development of ethics officials; and modernizing and implementing the ethics rules and regulations.

This chart provides an informal reference for agency ethics officials to the subject matter areas most frequently addressed to the Office of Government Ethics (OGE). The Department of Justice (DOJ) (including U.S. Attorneys' Offices) and agency Inspectors General also handle enforcement matters in a number of these areas, even where not specifically listed. Of course, individual executive branch agencies have responsibility in many of these areas as well, including their own statutory authority and supplemental regulations.

U.S. Government Entities with Ethics/Conduct-Related Authority

Topic	Federal Entity Concerned
• Standards of Ethical Conduct for Employees of the Executive Branch (5 C.F.R. part 2635) (Standards of Ethical Conduct) • Executive branch-wide regulations on public and confidential financial disclosure, outside employment limitations, ethics training, certain financial interests, and post-Government employment (5 C.F.R. parts 2634, 2636, 2637, 2638, 2640, and 2641)	OGE
• Conflict of Interest statutes (18 U.S.C. §§ 202, 203, 205, 207, 208, and 209)--interpretations	OGE DOJ, Office of Legal Counsel
• Hatch Act provisions (5 U.S.C. § 7321 et seq.) • Whistleblower Protection Act • Complaints of prohibited personnel practices	Office of Special Counsel Office of Personnel Management (OPM) (certain Hatch Act regulations)
• Criminal political contribution/activity restrictions (18 U.S.C. §§ 602, 603, 606, 607, and 610)	DOJ Individual U.S. Attorneys' Offices
• Appropriations law and contract protests • "Frequent flyer miles"	Comptroller General (General Accounting Office (GAO)) GSA (regulations on frequent flyer benefits)
• Ethics audit reports	GAO OGE
• Prosecution of violations of criminal conflict of interest statutes (information about a violation of the statutes must be referred to DOJ (28 U.S.C. § 535))	DOJ, incl. Public Integrity Section Individual U.S. Attorneys' Offices
• Restrictions against gambling on Government property, conduct "prejudicial to the Government" (i.e., criminal, infamous, or notoriously disgraceful conduct) and special preparation of persons for civil and foreign service examinations (5 C.F.R. part 735)	OPM General Services Administration (GSA) (restrictions on gambling on Federal property)
• General personnel/Federal employment matters	OPM
• Government Employees Training Act (see 5 U.S.C. § 4111 in particular)	OPM OGE (ethics aspects)

• Use of Government-owned property and equipment, e.g., phones, photocopying equipment (41 C.F.R.) • Official travel • Use of Government vehicles (31 U.S.C. § 1344) • Gifts of travel from non-Federal sources (31 U.S.C. § 1353	GSA OGE (ethics aspects and agency § 1353 reports)

(Link: https://www.oge.gov/web/oge.nsf/Mission%20and%20Responsibilities)

Selective Service System

The Selective Service System is an independent civilian agency within the Executive Branch of the federal government. The Director of Selective Service is appointed by the President. The legislation under which this agency operates is the Military Selective Service Act. Under this law, the mission of the Selective Service System is twofold: to deliver untrained manpower to the armed forces in time of emergency in accordance with requirements established by the Department of Defense, and to administer the alternative service program for conscientious objectors.

A system of conscription was used during the Civil War and again during World War I with the draft mechanism in both instances being dissolved at the end of hostilities. In 1940, prior to U.S. entry into World War II, the first peacetime draft in our nation's history was enacted in response to increased world tension and the system was able to fill wartime manpower needs smoothly and rapidly after the attack on Pearl Harbor. At the end of the war the draft law was allowed to expire, but it was reenacted less than two years later to maintain necessary military manpower levels as a result of the Cold War. From 1948 until 1973, during both peacetime and periods of conflict, men were drafted to fill vacancies in the armed forces which could not be filled through voluntary means. Induction authority expired in 1973, but the Selective Service System remained in existence in a "standby" posture to support the all-volunteer force in case an emergency should make it necessary for Congress to authorize a resumption of inductions.

Registration was suspended early in 1975 and the Selective Service System entered into a "deep standby" posture. Beginning in late 1979, a series of "revitalization" efforts were begun in an effort to upgrade the System's capability for rapid mobilization in an emergency, and in the summer of 1980 the registration requirement was resumed. Presently, young men must register within 30 days of their 18th birthday.

The Military Selective Service Act, along with its implementing regulations, provides that the structure of the agency will include a National Headquarters, a State Headquarters in each state, plus one for New York City, one for the District of Columbia, one for Guam, one for Northern Mariana Islands, one for Puerto Rico, and one for the Virgin Islands. The Act and regulations also provide for local boards, allocated according to county or corresponding political subdivisions. There is also a provision for Appeal Boards, which cover the same areas served by federal judicial districts plus a National Appeal Board. The Appeal Boards act in cases of persons who do not agree with the decisions of the Local Boards.

TODAY, approximately 124 full-time paid employees of the Selective Service System are primarily civilians hired under the rules prescribed by the Officer of Personnel Management (formerly U.S. Civil Service Commission). Reserve forces are composed of approximately 150 National Guard and Reserve officers who are assigned to Selective Service for their monthly drills and two-week active duty training sessions each year. In the event of an emergency, these officers could be called to active duty to augment the full-time staff.

The present structure of the agency consists of the National Headquarters, Data Management Center, and three Region Headquarters. State and local offices were closed in 1976 and would be reactivated only if inductions should be resumed.

IN THE EVENT OF A MOBILIZATION, Selective Service Reserve Forces Officers would be called to active duty to establish State Headquarters and Area Offices at predetermined locations, and at the same time the Local and Appeal Boards would be activated. A lottery drawing would be conducted to determine the order in which men would be called, and induction orders would be issued, in lottery number order, by means of the U.S. Postal Service. The first priority group would consist of men in the calendar year of their 20th birthday. Registrants receiving induction orders would either report to the Military Entrance Processing Station for examination and possible immediate induction, or file a claim for postponement, deferment or exemption from military service. Such claims would be considered by the Area Office or the Local Board, depending on the nature of the claim. Agency mobilization plans are designed to meet the needs of the Department of Defense.

Statistics

The following shows the numbers of men who entered military service through the Selective Service System during major 20th century conflicts in which the U.S. was engaged.

Conflict and Number of Inductions:

WWI: (Sept. 1917-Nov. 1918)	2,810,296
WWII: (Nov. 1940-Oct. 1946)	10,110,104
Korea: (June 1950-June 1953)	1,529,539
Vietnam: (Aug 1964-Feb 1973)	1,857,304

Inductions (by year) from World War I through the end of the draft (1973)

Year:	**Number of**

	Inductions
1917:	516,212
1918:	2,294,084
1940:	18,633
1941:	923,842
1942:	3,033,361
1943:	3,323,970
1944:	1,591,942
1945:	945,862
1946:	183,383
1947:	0
1948:	20,348
1949:	9,781
1950:	219,771
1951:	551,806
1952:	438,479
1953:	471,806
1954:	253,230
1955:	152,777
1956:	137,940
1957:	138,504
1958:	142,246
1959:	96,153
1960:	86,602
1961:	118,586
1962:	82,060
1963:	119,265
1964:	112,386
1965:	230,991
1966:	382,010
1967:	228,263
1968:	296,406
1969:	283,586
1970:	162,746
1971:	94,092
1972:	49,514
1973:	646

The last man inducted entered the Army on June 30, 1973.

The Vietnam Lotteries

A lottery drawing - the first since 1942 - was held on December 1, 1969, at Selective Service National Headquarters in Washington, D.C. This event determined the order of call for induction during calendar year 1970; that is, for registrants born between January 1, 1944, and December

31, 1950. Reinstitution of the lottery was a change from the "draft the oldest man first" method, which had been the determining method for deciding order of call.

There were 366 blue plastic capsules containing birth dates placed in a large glass container and drawn by hand to assign order-of-call numbers to all men within the 18-26 age range specified in Selective Service law.

With radio, film, and TV coverage, the capsules were drawn from the container, opened, and the dates inside posted in order. The first capsule - drawn by Congressman Alexander Pirnie (R-NY) of the House Armed Services Committee - contained the date September 14, so all men born on September 14 in any year between 1944 and 1950 were assigned lottery number 1. The drawing continued until all days of the year had been paired with sequence numbers.

LOTTERY DRAWINGS - Vietnam Era

Table	Date of Drawing	Applied to Year of Birth	Administrative Processing Number
1970	December 1, 1969	1944-1950	195
1971	July 1, 1970	1951	125
1972	August 5, 1971	1952	95
1973	February 2, 1972	1953	95
1974	March 8, 1973	1954	95
1975	March 20, 1974	1955	95
1976	March 12, 1975	1956	95

Overview of What Would Occur if the United States Returned to a Draft:

Number 1 Congress and the President Authorize a Draft

A crisis occurs which requires more troops than the volunteer military can supply. Congress passes and the President signs legislation which starts a draft.

Number 2 The Lottery

A lottery based on birthdays determines the order in which registered men are called up by Selective Service. The first to be called, in a sequence determined by the lottery, will be men whose 20th birthday falls during that year, followed, if needed, by those aged 21, 22, 23, 24 and 25. 18-year-olds and those turning 19 would probably not be drafted.

Number 3 All Parts of Selective Service are Activated

Selective Service activates and orders its state directors and Reserve Forces Officers to report for duty. See also Agency Structure.

Number 4 Physical, Mental, and Moral Evaluation of Registrants

Registrants with low lottery numbers are ordered to report for a physical, mental, and moral evaluation at a Military Entrance Processing Station to determine whether they are fit for military service. Once he is notified of the results of the evaluation, a registrant will be given 10 days to file a claim for exemption, postponement, or deferment. See also Classifications.

Number 5 Local and Appeal Boards Activated and Induction Notices Sent

Local and Appeal Boards will process registrant claims. Those who pass the military evaluation will receive induction orders. An inductee will have 10 days to report to a local Military Entrance Processing Station for induction.

Number 6 First Draftees are inducted

According to current plans, Selective Service must deliver the first inductees to the military within 193 days from the onset of a crisis.

(Link: https://www.sss.gov/About/History-And-Records/Background-Of-Selective-Service)

U.S. Supreme Court

The Supreme Court consists of the Chief Justice of the United States and such number of Associate Justices as may be fixed by Congress. The number of Associate Justices is currently fixed at eight (28 U. S. C. §1). Power to nominate the Justices is vested in the President of the United States, and appointments are made with the advice and consent of the Senate. Article III, §1, of the Constitution further provides that "[t]he Judges, both of the supreme and inferior Courts, shall hold their Offices during good Behavior, and shall, at stated Times, receive for their Services, a Compensation, which shall not be diminished during their Continuance in Office."

Court Officers assist the Court in the performance of its functions. They include the Counselor to the Chief Justice, the Clerk, the Librarian, the Marshal, the Reporter of Decisions, the Court Counsel, the Curator, the Director of Information Technology, and the Public Information Officer. The Counselor is appointed by the Chief Justice. The Clerk, Reporter of Decisions, Librarian, and Marshal are appointed by the Court. All other Court Officers are appointed by the Chief Justice in consultation with the Court.

Constitutional Origin. Article III, §1, of the Constitution provides that "[t]he judicial Power of the United States, shall be vested in one supreme Court, and in such inferior Courts as the Congress may from time to time ordain and establish." The Supreme Court of the United States was created in accordance with this provision and by authority of the Judiciary Act of September 24, 1789 (1 Stat. 73). It was organized on February 2, 1790.

Jurisdiction. According to the Constitution (Art. III, §2): "The judicial Power shall extend to all Cases, in Law and Equity, arising under this Constitution, the Laws of the United States, and Treaties made, or which shall be made, under their Authority;-to all Cases affecting Ambassadors, other public Ministers and Consuls;-to all Cases of admiralty and maritime Jurisdiction;-to Controversies to which the United States shall be a Party;-to Controversies between two or more States;—between a State and Citizens of another State;-between Citizens of different States;—between Citizens of the same State claiming Lands under Grants of different States, and between a State, or the Citizens thereof, and foreign States, Citizens or Subjects.

"In all Cases affecting Ambassadors, other public ministers and Consuls, and those in which a State shall be Party, the supreme Court shall have original Jurisdiction. In all the other Cases before mentioned, the supreme Court shall have appellate jurisdiction, both as to Law and Fact, with such Exceptions, and under such Regulations as the Congress shall make."

Appellate jurisdiction has been conferred upon the Supreme Court by various statutes, under the authority given Congress by the Constitution. The basic statute effective at this time in conferring and controlling jurisdiction of the Supreme Court may be found in 28 U. S. C. §1251 et seq., and various special statutes.

Rulemaking Power. Congress has from time to time conferred upon the Supreme Court power to prescribe rules of procedure to be followed by the lower courts of the United States. See 28 U. S. C. §2071 et seq.

The Building. The Supreme Court is open to the public from 9 a.m. to 4:30 p.m., Monday through Friday. It is closed Saturdays, Sundays, and the federal legal holidays listed in 5 U. S. C. §6103. Unless the Court or the Chief Justice orders otherwise, the Clerk's Office is open from 9 a.m. to 5 p.m., Monday through Friday, except on those holidays. The Library is open to members of the Bar of the Court, attorneys for the various federal departments and agencies, and Members of Congress.

The Term. The Term of the Court begins, by law, on the first Monday in October and lasts until the first Monday in October of the next year. Approximately 7,000-8000 petitions are filed with the Court in the course of a Term. In addition, some 1,200 applications of various kinds are filed each year that can be acted upon by a single Justice.

The Supreme Court Building

"The Republic endures and this is the symbol of its faith." These words, spoken by Chief Justice Charles Evans Hughes in laying the cornerstone for the Supreme Court Building on October 13, 1932, express the importance of the Supreme Court in the American system.

Yet surprisingly, despite its role as a coequal branch of government, the Supreme Court was not provided with a building of its own until 1935, the 146th year of its existence.

Initially, the Court met in the Merchants Exchange Building in New York City. When the National Capital moved to Philadelphia in 1790, the Court moved with it, establishing Chambers first in the State House (Independence Hall) and later in the City Hall.

When the Federal Government moved, in 1800, to the permanent Capital, Washington, the District of Columbia, the Court again moved with it. Since no provision had been made for a Supreme Court Building, Congress lent the Court space in the new Capitol Building. The Court was to change its meeting place a half dozen times within the Capitol. Additionally, the Court convened for a short period in a private house after the British set fire to the Capitol during the War of 1812. Following this episode, the Court returned to the Capitol and met from 1819 to 1860 in a chamber now restored as the "Old Supreme Court Chamber." Then from 1860 until 1935, the Court sat in what is now known as the "Old Senate Chamber."

Finally in 1929, Chief Justice William Howard Taft, who had been President of the United States from 1909 to 1913, persuaded Congress to end this arrangement and authorize the construction of a permanent home for the Court. Architect Cass Gilbert was charged by Chief Justice Taft to design "a building of dignity and importance suitable for its use as the permanent home of the Supreme Court of the United States."

Neither Taft nor Gilbert survived to see the Supreme Court Building completed. Construction proceeded under the direction of Chief Justice Hughes and architects Cass Gilbert, Jr., and John R. Rockart. The construction, begun in 1932, was completed in 1935, when the Court was finally able to occupy its own building.

The classical Corinthian architectural style was selected because it best harmonized with nearby congressional buildings. The building was designed on a scale in keeping with the importance and dignity of the Court and the Judiciary as a coequal, independent branch of the United States Government, and as a symbol of "the national ideal of justice in the highest sphere of activity."

The general dimensions of the foundation are 385 feet from east to west, (front to back) and 304 feet from north to south. At its greatest height, the building rises four stories above the terrace or ground floor. Marble was chosen as the principal material to be used and $3 million worth was gathered from foreign and domestic quarries. Vermont marble was used for the exterior, while the four inner courtyards are of crystalline flaked, white Georgia marble. Above the basement level, the walls and floors of all corridors and entrance halls are either wholly or partially of creamy Alabama marble. The wood in offices throughout the building, such as doors, trim, paneled walls, and some floors, is American quartered white oak.

The Court Building cost less than the $9,740,000 Congress authorized for its construction. Not only was the final and complete cost of the building within the appropriation, but all furnishings were also procured, even though planners had initially expected that the project would require additional appropriations. Upon completion of the project, $94,000 was returned to the Treasury.

Touring the Building
The main entrance to the Supreme Court Building is on the west side, facing the United States Capitol. A few low steps lead up to the 252-foot-wide oval plaza in front of the building. Flanking these steps is a pair of marble candelabra with carved panels on their square bases depicting: Justice, holding sword and scales, and The Three Fates, weaving the thread of life. On either side of the plaza are fountains, flagpoles, and benches.

The bronze flagpole bases are crested with symbolic designs of the scales and sword, the book, the mask and torch, the pen and mace, and the four elements: air, earth, fire, and water.

On either side of the main steps are seated marble figures. These large statues are the work of sculptor James Earle Fraser. On the left is a female figure, the Contemplation of Justice. On the right is a male figure, the Guardian or Authority of Law.

Sixteen marble columns at the main west entrance support the pediment. On the architrave above is incised "Equal Justice Under Law" Capping the entrance is a sculptured group by Robert Aitken, representing Liberty Enthroned guarded by Order and Authority. On either side are groups of three figures depicting Council and Research which Aitken modeled after several prominent individuals concerned with the law or the creation of the Supreme Court Building. At the left are Chief Justice Taft as a youth, Secretary of State Elihu Root, and the architect Cass Gilbert. Seated on the right are Chief Justice Hughes, the sculptor Aitken, and Chief Justice Marshall as a young man.

Too often, visitors do not see the corresponding pediment and columns on the east side. Here the sculpture group is by Hermon A. MacNeil, and the marble figures represent great lawgivers, Moses, Confucius, and Solon, flanked by symbolic groups representing Means of Enforcing the Law, Tempering Justice with Mercy, Settlement of Disputes Between States, and Maritime and

other functions of the Supreme Court. The architrave bears the legend: "Justice the Guardian of Liberty."

The monumental bronze doors at the top of the front steps weighs six and one-half tons each and slide into a wall recess when opened. The door panels, sculpted by John Donnelly, Jr., depict historic scenes in the development of law: the trial scene from the shield of Achilles, as described in the Iliad; a Roman praetor publishing an edict; Julian and a pupil; Justinian publishing the Corpus Juris; King John sealing the Magna Carta; the Chancellor publishing the first Statute of Westminster; Lord Coke barring King James from sitting as a Judge; and Chief Justice Marshall and Justice Story.

The main corridor is known as the Great Hall. At each side, double rows of monolithic marble columns rise to a coffered ceiling. Busts of all former Chief Justices are set alternately in niches and on marble pedestals along the side walls. The frieze is decorated with medallion profiles of lawgivers and heraldic devices.

At the east end of the Great Hall, oak doors open into the Court Chamber. This dignified room measures 82 by 91 feet and has a 44–foot ceiling. Its 24 columns are Old Convent Quarry Siena marble from Liguria, Italy; its walls and friezes are of Ivory Vein marble from Alicante, Spain; and its floor borders are Italian and African marble.

The raised Bench behind which the Justices sit during sessions, and other furniture in the Courtroom are mahogany. The Bench was altered in 1972 from a straight-line to a "winged" shape to provide sight and sound advantages over the original design.

At the left of the Bench is the Clerk of the Court's desk. The Clerk is responsible for the administration of the Court's dockets and argument calendars, the supervision of the admission of attorneys to the Supreme Court Bar, and other related activities. To the right is the desk of the Marshal of the Court. The Marshal is the timekeeper of Court sessions, signalling the lawyer by white and red lights as to time limits. The Marshal's responsibilities include the maintenance and security of the building and serving as the Court's building manager.

The attorneys arguing cases before the Court occupy the tables in front of the Bench. When it is their turn to argue, they address the Bench from the lectern in the center. A bronze railing divides the public section from that reserved for the Supreme Court Bar.

Representatives of the press are seated in the red benches along the left side of the Courtroom. The red benches on the right are reserved for guests of the Justices. The black chairs in front of those benches are for the officers of the Court and visiting dignitaries.

The main floor is largely occupied by the Justices' Chambers, offices for law clerks and secretaries, the large, formal East and West Conference Rooms, the offices of the Marshal, an office for the Solicitor General, the Lawyers' Lounge, and the Justices' Conference Room and Robing Room. This office space surrounds four courtyards, each with a central fountain.

Most of the second floor is devoted to office space including the offices of the Reporter of Decisions and the Legal Office. The Justices' Library Reading Room and the Justices' Dining Room are also located here.

The Library occupies the third floor and has a collection of more than 500,000 volumes. To meet the informational needs of the Court, librarians draw on electronic retrieval systems and their microform collection in addition to books. The library's main reading room is paneled in hand carved oak. The wood carving here, as throughout the building, is the work of the Matthews Brothers.

The ground floor is devoted to offices and public services, including the offices of the Clerk of the Court, the Counselor to the Chief Justice, police headquarters, the Public Information Office and Press Room, the Curator's Office and the Personnel Office. On this floor visitors can view one of the two marble spiral staircases. Each ascends five stories and is supported only by overlapping steps and by their extensions into the wall.

(Link: https://www.supremecourt.gov/about/courtbuilding.aspx)