

6th Annual



MILITARY ECONOMIC IMPACT STUDY

San Diego Region
2014

**Fermanian Business &
Economic Institute at PLNU**

business & economics in action

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About the San Diego Military Advisory Council (SDMAC)

Mission

SDMAC is a nonprofit mutual benefit corporation, whose mission is to support, promote, and represent the common business and other interests of the military, their quality of life issues, and the defense industry community in the San Diego area.

Membership

SDMAC's current membership is comprised of 140 corporate members and approximately 250 individual members across the San Diego region.

For general information and membership details, go to www.sdmac.org



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LETTER FROM THE SDMAC PRESIDENT *September, 23 2014*



SDMAC Members and Supporters,

The San Diego Military Advisory Council (SDMAC) is proud to present the 6th Annual SDMAC Military Economic Impact Study (SDMAC MEIS). This study once again highlights the mutually beneficial relationship and the significant economic impact that exists between the military and the San Diego region. In fact, new data in the study reinforces even more that San Diego's military community and defense cluster is vital to our region's economy.

San Diego remains home to the largest concentration of military forces in the country, and plays an even more valuable role in the National Defense Strategy as the "Rebalance to the Pacific" emerges. San Diego homeports over 60 percent of the ships of the U.S. Pacific Fleet and over one-third of the combat power of the U.S. Marine Corps. There are over 100,000 active-duty Navy and Marine Corps personnel assigned to the ships and bases in the San Diego region and approximately 25,000 Department of Defense civilian employees. The unique relationship between the military and the San Diego region exists nowhere else in the country. The presence of Department of Defense (DOD) facilities, personnel and equipment generates a significant economic impact on the San Diego region that far outpaces other industries in the area.

This year's study adds new sections, including the economic and socio-economic impact of Navy Medicine on the region, and the impact of the nuclear powered submarines that are home-ported in San Diego. The study also includes an update on the region's military installations and commands. SDMAC once again engaged the Fermanian Business and Economic Institute of Point Loma Nazarene University to help produce the study.

The Murray/Ryan bi-partisan budget agreement of 2013 provided relief from the sequester for fiscal years 2014 and 2015; however as we go to press with this year's study, it is again apparent that we will be facing the uncertainty associated with a Continuing Resolution (CR) as we enter FY 2015. The CR coupled with the winding down of the U.S. commitment in Afghanistan will have an impact on defense spending in San Diego. We also must not forget that we have the threat of sequestration looming on the horizon once again in 2016. However, the region's advantages in areas such as cyber security and unmanned systems as well as the "Rebalance to the Pacific" should help offset these negative influences.

I would like to extend our deepest appreciation to: Rear Admiral Patrick Lorge, USN Commander Navy Region Southwest; Brigadier General Edward D Banta USMC, (and his predecessor Brigadier General John W. Bullard USMC), Commanding General Marine Corps Installations West; Rear Admiral David Lewis, USN (and his predecessor Rear Admiral Patrick Brady, USN), Commander SPAWAR; Rear Admiral Bruce Gillingham, MC, USN, Commander Navy Medicine West; and Brigadier General James Bierman, USMC, Commanding General Marine Corps Recruit Depot San Diego. These outstanding officers and their staffs provided support to our research team throughout this effort. We thank them for their leadership, insight, and contributions to this study.

Once again, the SDMAC MEIS proves San Diego's military community and defense cluster to be the region's most important economic driver – something we can all be proud of yet we cannot take for granted.

Best Regards,

Jamie Moraga

2014 SDMAC President

September, 2014

Members and Supporters of SDMAC,

Point Loma Nazarene University's Fermanian Business & Economic Institute (FBEI) is pleased to present the 6th Annual SDMAC Military Economic Impact Study (SDMAC MEIS). The long-standing partnership between PLNU and SDMAC provides the San Diego region with a broader perspective of the long-term value, significance, and economic influence of the military in the region.

The 2014 study offers a comprehensive update of previous research, including the economic impact by ship class. For 2014 the report, for the first time, includes an economic analysis of submarines based in the region and features an entire section on Navy Medicine, specifically on the Camp Pendleton and Balboa Hospitals. This focus on medicine considers the economic impact of personnel, procurement of equipment and services, and the ripple effects resulting from these factors. The results reflect and support the strategic importance and mutual benefit of the military's presence in the San Diego region.

The Institute's work involved several months of data collection, research, and careful analysis. This process allows for a straight-forward approach in developing and presenting conclusions designed to assist decision makers at local and national levels.

On behalf of PLNU's Fermanian Business & Economic Institute, Chief Economist, Dr. Lynn Reaser, and Executive Director, Cathy Gallagher, we are pleased to present to the San Diego Military Advisory Council the 2014 SDMAC MEIS for your consideration and use.

Positively,



Bob Brower, Ph.D.
President

DEDICATION

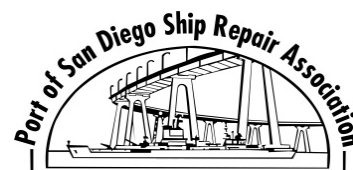
The SDMAC Military Economic Impact Study was first dedicated two years ago to the memory of John Nersesian, SDMAC President 2009 and long-term SDMAC Board Member who left us on May 29, 2012. It was John's vision that recognized the need to quantify and document the military's many contributions to the San Diego region, and it was his initiative, drive, and encouragement that were the forces that resulted in the San Diego Military Advisory Council producing the annual Military Economic Impact Study. John was a patriot and a great supporter of the military and their families. His contributions to the military's mission and improving the quality of life for the military and their families in the San Diego area were truly significant and are his legacy.



John Nersesian
SDMAC President 2009
(Nov. 1942–May 2012)

SPONSORS

SDMAC would like to thank the following companies and organizations for their generous support in helping to make this 6th Annual SDMAC Military Economic Impact Study possible.



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Special thanks to FBEI student assistant Laura Meng and alum Jacy Romero for conducting research and data collection.

The Fermanian Business & Economic Institute (FBEI) is a strategic unit of the Fermanian School of Business (FSB) at Point Loma Nazarene University (PLNU) that specializes in expert business and economic consulting, commentary, speeches, studies, research, and related services. The FBEI also provides the San Diego region with economic forecasting events, business and economic round-tables, and special projects. The FBEI represents the academic standards of the university by maintaining an objective approach and has a reputation for authoritative and objective insight regarding issues of business, economics, and policy facing our region.



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SPECIAL THANKS

SDMAC wishes to thank the San Diego County Board of Supervisors and the San Diego City Council Members for their financial support in producing this study:

The County of San Diego



San Diego City Council Members



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LIST OF ACRONYMS

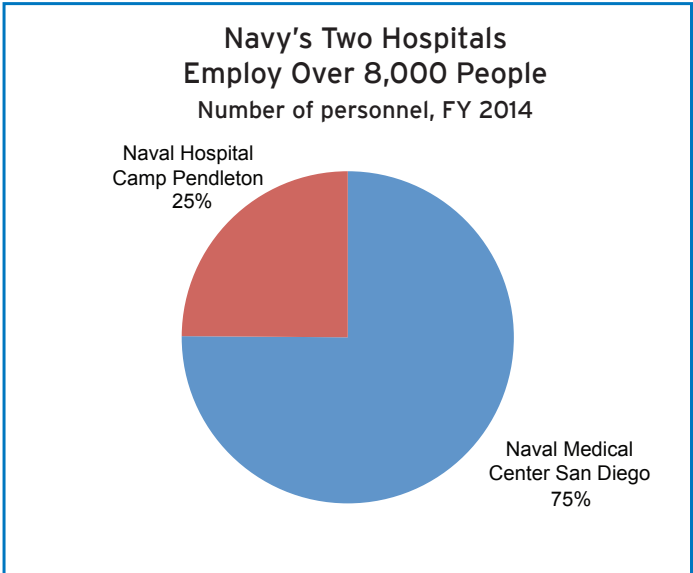
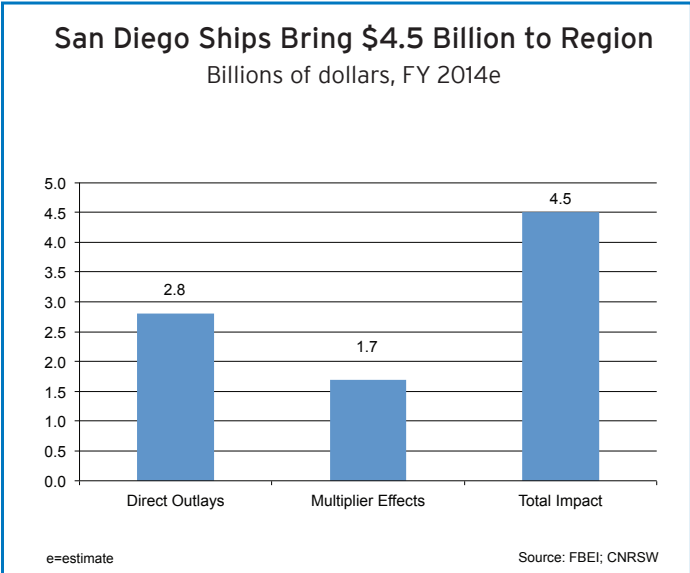
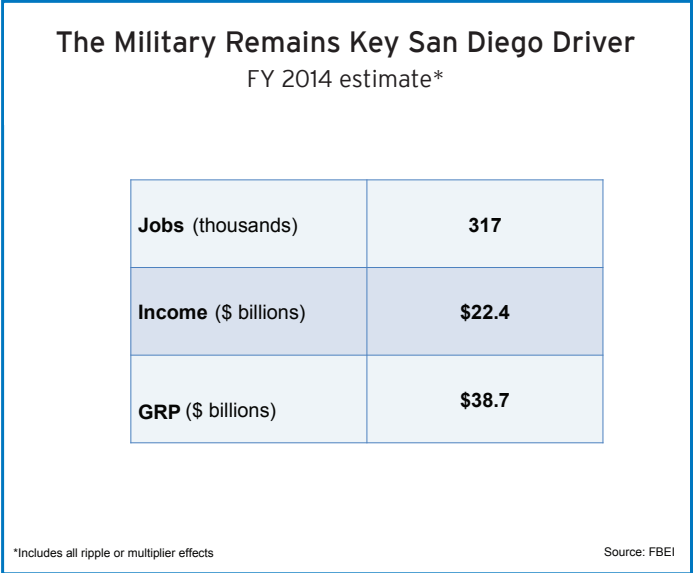
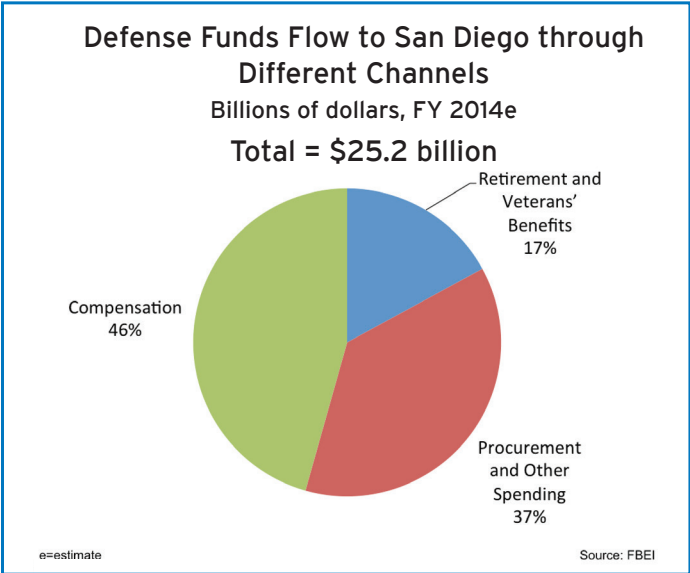
ACSP	Audubon Cooperative Sanctuary Program
C&D	Construction and Demolition
CALFIRE	California Department of Forestry and Fire Protection
CBO	Congressional Budget Office
CFFR	Consolidated Federal Funds Report
CNRSW	Commander, Navy Region Southwest
CRADA	Cooperative Research and Development Agreement
DECA	Defense Commissary Agency
DMDC	Defense Management Data Center
DoD	Department of Defense
DoL	Department of Labor
DoN	Department of Navy
EMS	Environmental Management System
FBEI	Fermanian Business & Economic Institute
FPDS	Federal Procurement Data System - Next Generation
FEDFIRE	San Diego Federal and Metro Fire and Emergency Services
FIRST	For Inspiration and Recognition of Science and Technology
FRCSW	Fleet Readiness Center Southwest
FY	Fiscal Year (Oct. 1 - Sept. 30.)
GPC	Government Purchase Card
LEED	Leadership in Energy and Environmental Design
MAG	Marine Aircraft Group
MAW	Marine Air Wing
MCAS	Marine Corps Air Station
MCB	Marine Corps Base
MCRD	Marine Corps Recruit Depot
MCI	Marine Corps Installations
MHPI	Military Housing Privatization Initiative
NAB	Naval Amphibious Base
NAICS	North American Industry Classification System
NASNI	Naval Air Station North Island
NAVSUP FLC	Naval Supply Systems Command Fleet Logistics Center
NBC	Naval Base Coronado
NBPL	Naval Base Point Loma
NBSD	Naval Base San Diego
NHCP	Naval Hospital Camp Pendleton
NMAWC	Naval Mine and Anti-Submarine Warfare Command
NOSC	Naval Operations Support Center
NEX	Naval Exchange Service Command
NMCSD	Naval Medical Center San Diego
NRSW	Navy Region Southwest
NWS	Naval Weapons Station
OMB	Office of Management and Budget
RDTA&E	Research, Development, Test, Acquisition, and Evaluation
SCEP	Student Career Employment Program
SDPTA	San Diego Port Tenants Association
SPAWAR	Space and Naval Warfare Systems Command
STEM	Science, Technology, Engineering, and Mathematics
STEP	Student Temporary Employment Program
TSC	Training Support Center

EXECUTIVE SUMMARY

The combination of San Diego's military community and defense cluster remains San Diego's most important economic driver. In fact, new data shows that it is even more important than previously thought. San Diego's defense base generates large numbers of jobs and income for the region. Going forward, changes in global security risks and domestic budget pressures present both challenges and opportunities.

- An estimated total of \$25.2 billion in direct spending related to defense has been sent to San Diego County during fiscal year 2014, an amount equal to more than \$7,800 for each of the County's residents.
- Defense-related activities and spending will generate an estimated \$38.7 billion of gross regional product (GRP) for San Diego County in fiscal 2014. This represents 20% of the region's total GRP.
- The military sector is responsible for about 317,000 of the region's total jobs in 2014 after accounting for all of the ripple effects of defense spending. This represents approximately 22% of all of the jobs existing in the County.
- The jobs created as a result of defense spending span a wide range, including engineering, food services, information technology, cyber security, construction, shipbuilding, health care, real estate, and retailing.
- Income generated as a result of all of the direct and multiplier effects of military-related spending will amount to an estimated \$22.4 billion in 2014. This includes wages, salaries, other compensation, and incomes of proprietors. Note that this figure is less than both the direct spending and GRP estimates that also include rent, interest, corporate taxes, and profits.
- San Diego is home to the Navy's Space and Naval Warfare Systems Command (SPAWAR), an acquisition command that directly employs nearly 5,000 professionals, attracts close to \$1.8 billion in direct spending, and contributes about \$2.5 billion in GRP for the region.
- In fiscal 2014, the 56 ships home ported in San Diego will see direct spending of about \$2.8 billion that will equate to a total economic impact of \$4.5 billion in GRP. The two aircraft carriers based here will each add about \$500 million to the economy.
- The two Navy hospitals in San Diego employ about 8,000 individuals and bring in nearly \$1 billion of DoD dollars directly into the region. After accounting for all of the ripple effects, this translates into a \$1.86 billion contribution to the region's GRP.

- Total direct spending in the region linked to the military may dip modestly due to budget and personnel reductions in fiscal 2015, as increases in veterans’ and retirement benefits offset cutbacks in contract expenditures and payroll costs. After accounting for inflation, spending will drop about 3%, while total jobs linked to the military slip to a still sizable 310,000.



STUDY PURPOSE, SCOPE, AND REVISIONS

U.S. defense policy remains trapped between pressures to reduce the nation's budget deficit and escalating risks abroad, including those involving the worldwide war on terrorism, the Middle East, Russia, China, and North Korea. The direction national security policy ultimately takes will have a profound impact on San Diego. This year's 6th Annual SDMAC MEIS represents an effort to provide the most accurate and comprehensive picture of defense-related spending and its total impact on the region's economy. It explores how different dimensions of military spending are changing and what prospects may lie ahead.

Overview

The study tracks the flow of funds through various channels linked to defense, ranging from defense contracts to veterans' benefits. It then analyzes the total impact on jobs, personal income, and GRP after accounting for all of the ripple or multiplier effects. The study also examines budget prospects for fiscal year 2015 and presents the likely impact on the San Diego region for the coming year.

This year's SDMAC MEIS updates last year's special analysis on the impact by ship class. It includes data and estimates for submarines, bringing the size of the total fleet studied to 56. This year's report adds a new section and analysis of Navy Medicine. The monetary and non-monetary contributions of the Navy's two major hospitals, Naval Medical Center San Diego or "Balboa" and Naval Hospital Camp Pendleton, are presented as part of the ongoing effort to acquire knowledge and understanding of the military's total reach.

The final section provides a comprehensive description of the principal Navy and Marine Corps installations located in San Diego County to provide a clear picture of the varied operations and activities throughout the region.

Data Revisions

As frequently occurs, data revisions have taken place since last year's SDMAC MEIS was published. Data on procurement contracts was revised substantially upward for fiscal years 2010 through 2012, although preliminary numbers for fiscal year 2013 indicate a much greater impact of sequestration than had been assumed. Grant data has been revised significantly higher.

This year's report contains several additional efforts to capture the full thrust of defense-related dollars flowing into San Diego: 1) an estimate has been made of civilian non-wage benefits; (2) estimates of the Basic Allowance for Subsistence (BAS) are included; (3) the value of veterans' benefits has been expanded to encompass education, job training, and health care; and (4) the impact of tourism has been enlarged to include the effects of business and government officials visiting SPAWAR, the hospitals, and other facilities as well as the impact of conventions linked to the military.

The impact of these data revisions and increases in coverage have raised our estimate of the amount of direct defense-related spending for San Diego County to \$25.2 billion for fiscal year 2014 from the \$24.3 billion projected a year ago. The number of jobs is estimated at 317,000 versus the 295,000 of the prior report. Upward revisions in overall employment mean that the military still accounts for the 22% of total employment estimated a year ago. The total impact on the region's personal income is currently estimated at \$22.4 billion for fiscal 2014, compared with \$20.6 billion in the prior year's report.

The largest change involves the estimate of the impact of San Diego defense spending on gross regional product (GRP). The U.S. Bureau of Economic Analysis has revised substantially upward the direct contribution of military payrolls to GRP. It has also introduced major changes in its national income accounts and input-output models, which will continue to impact San Diego going forward. As an example of one of these changes, expenditures on research and development (R&D) are now included in measures of U.S. gross domestic product (GDP). This is very important for San Diego as the military, particularly through the work of SPAWAR and Navy Medicine West, is a major source of R&D. The impact of recent revisions has been to raise the contribution of the military to San Diego GRP for 2014 to \$38.7 billion versus the \$31.9 billion of a year ago. This means that the military through its various ripple effects accounts for about 20% of the region's GRP versus the 17% previously indicated.

Comparisons to Last Year's Report

	2014 Estimate (2013 Study)	2014 Estimate (2014 Study)	Difference
Direct Spending (\$ billions)	\$24.3	\$25.2	\$0.9
In the 2014 Study, additional data now available is included: civilian non-wage benefits; expansion of data on Veterans' benefits to include education, job training, and health care; upward revisions in grant data; and enlargement of tourist data to include business and convention travel. This increased the direct spending estimate.			
Jobs (thousands)	295	317	22
Increase in direct spending estimates, reflected above, and benchmark revisions of employment data raised the job total.			
Gross Regional Product (GRP, \$ billions)	\$31.9	\$38.7	\$6.8
Revisions in regional GRP data, including significant increases in the estimated contribution of military employees to the value of the region's total output, a higher estimate of direct spending, and the multiplier effects derived from the IMPLAN© model resulted in the \$6.8 billion increase.			

SECTION I: THE ECONOMIC IMPACT

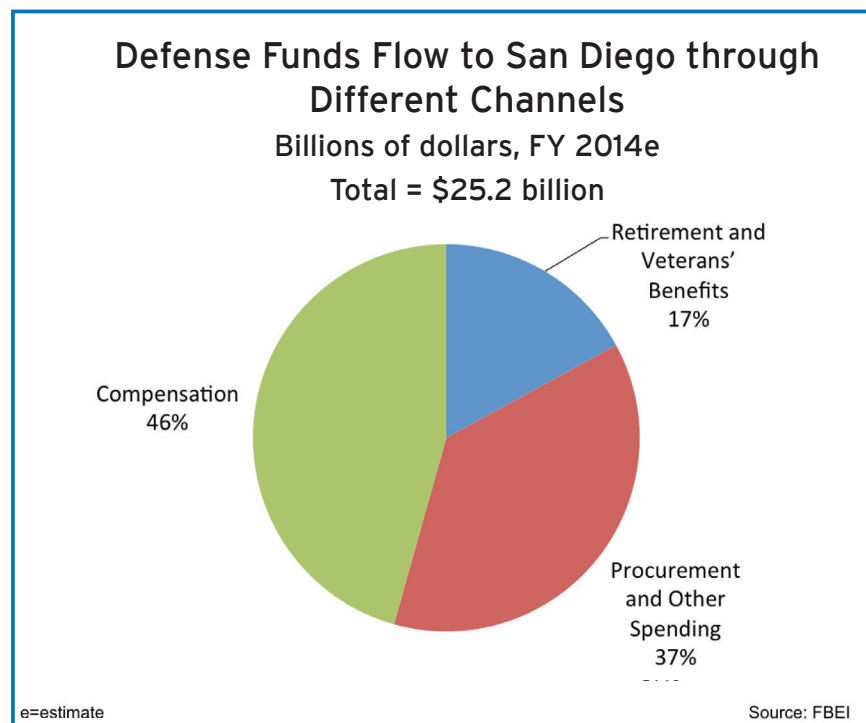
The Military's Footprint in San Diego

The military and defense spending have long played a dominant role in San Diego. Even as the region has diversified into other areas, including life sciences, telecommunications, alternative energy, and health care, investment in national security represents a key economic driver.

Funds devoted to carrying out the nation's defense priorities flow into San Diego through three primary channels. First, compensation supports the Navy, Marine Corps, civilian employees, and reserves stationed in the region. Second, outlays on materials, equipment, construction, and research, along with tourist dollars linked to the military's local presence, contribute to the economy. Finally, benefit payments flow to individuals who have served the military in some capacity over the course of their lifetimes.

For fiscal 2014, \$25.2 billion is estimated to have come to San Diego through these three principal channels. This amount equals more than \$7,800 for every San Diego resident. Approximately 46% will represent the wages, salaries, and benefits for active duty, civilian employees, and members of the reserves. Another 37% will be the result of various procurement contracts, smaller amounts of spending by the local military bases, research grants, and the expenditures by business and leisure travelers from outside the region. A final 17% will be dedicated to the payment of retirement and other benefits owed veterans, retired military, and retired civilian Department of Defense (DoD) employees. (See Exhibit 1.)

Exhibit 1



San Diego's Military Face: The People

Approximately 133,000 uniformed Military and DoD civilians currently work in various locations throughout San Diego County. (See Exhibit 2.) These include active duty members of the Navy and Marines, civilian employees, and members of the reserves.

About 49,000 of these are members of the U.S. Navy, which represents more than one of every seven members of the nation's total Naval force. The largest share of the region's Navy (over 18,000) is at the Naval Base San Diego. (See Exhibit 3.)

Marines total over 51,000 in San Diego, including the average number of recruits located here at any given time during the year (an estimated 3,635 in fiscal year 2014). One out of every four individuals serving nationwide in the Marine Corps is based in San Diego County. Camp Pendleton is home to more than 36,000 of San Diego's Marines.

Exhibit 2

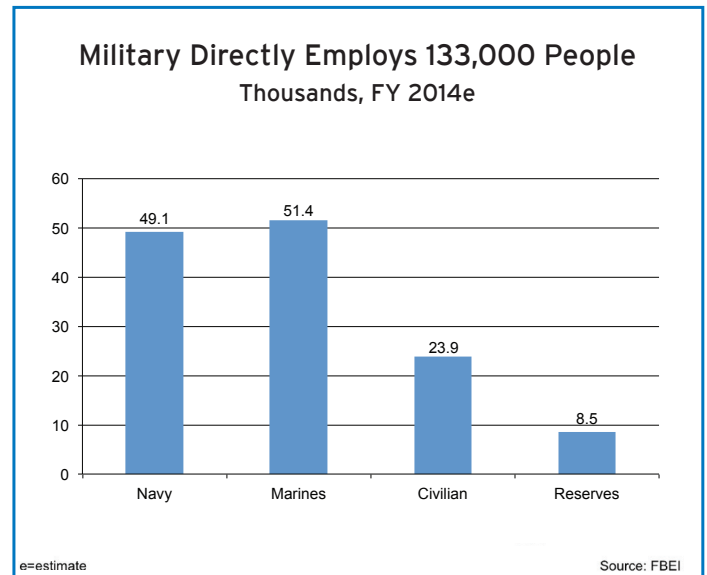


Exhibit 3

Active Duty and DoD Civilians Located in Various Facilities

Number of employees, FY 2014*

Installation	CIV APF	USMC	USN	Total
MCAS MIRAMAR	683	9,392	552	10,627
MCB & MCAS CAMP PENDLETON	2,483	36,309	4,008	42,800
MCRD SAN DIEGO	432	1,512	112	2,056
MCRD RECRUITS	0	3,635	0	3,635
NAVMEDCEN SAN DIEGO	2,317	143	3,626	6,086
NB CORONADO (IMPERIAL BEACH)	20	0	885	905
NB CORONADO (NAB CORONADO)	444	140	3,558	4,142
NB CORONADO (NASNI and SCI)	5,114	64	13,429	18,607
NB POINT LOMA (NMAWC)	231	0	1,779	2,010
NB POINT LOMA (OTC)	794	9	278	1,081
NB POINT LOMA (SUBASE)	3,713	0	1,822	5,535
NB POINT LOMA (TOPSIDE)	4,016	0	234	4,250
NB SAN DIEGO	2,581	18	18,366	20,965
NB SAN DIEGO (Broadway)	543	0	334	877
NOSC SAN DIEGO, CA	2	102	47	151
NWS SEAL BEACH DET FALLBROOK	194	13	3	210
OTHER	328	94	62	484
Total	23,895	51,431	49,095	124,421

*reserves not included

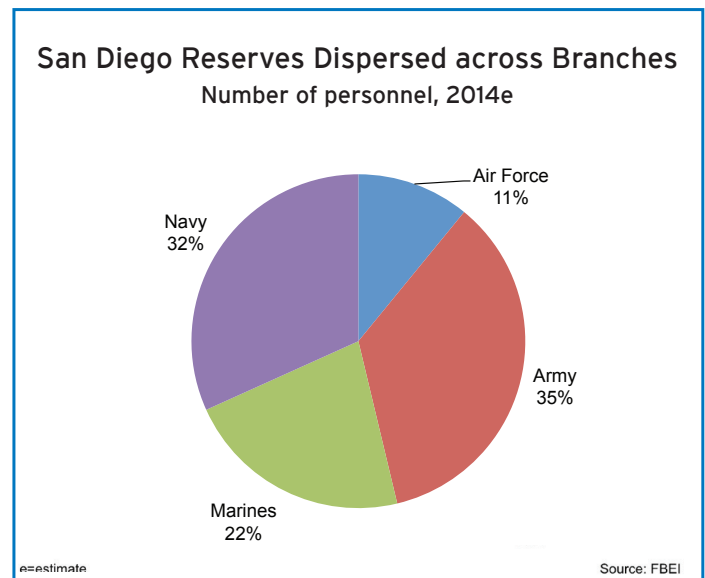
Source: FBEI; CNRSW

An additional 24,000 civilian employees on the payrolls of the DoD support the operations of active duty personnel throughout the region. Personnel conducting high-level cyber and information systems research and development at SPAWAR are included in the numbers for the four Naval Base Point Loma complexes in Exhibit 3. Nearly half of SPAWAR's 10,000 worldwide employees live in San Diego and SPAWAR ranks as one of San Diego County's primary employers. If it were a private firm, it would be one of the County's largest employers.

Defense dollars support approximately 8,600 members of the Armed Forces Reserves who reside in San Diego County. These individuals take part in various training exercises throughout the year and support crisis situations that may develop either in the U.S. or abroad. The Navy and Army each account for about one-third of San Diego residents serving in the reserves. Another 22% serve with the Marines, while the remaining 11% are reservists with the Air Force. (See Exhibit 4.)

The 133,000 total employee count includes only DoD employees (active duty, civilian, and reserves). Not included are employees of the Department of VA or members of the Coast Guard who are part of the Department of Homeland Security.

Exhibit 4



Individuals employed as active duty members, members of the reserves, or civilians and their families reside throughout San Diego County. The highest concentrations are in North County in the area encompassing Camp Pendleton, the neighborhoods around the Marine Corps Air Station Miramar, and in the localities that are part of or adjacent to the City of San Diego. The Navy's principal operations at Naval Base Coronado, Naval Base Point Loma, and the Naval Base San Diego mean that large numbers of military personnel and their families reside in the coastal and inland areas of the southern half of the County. (See Exhibit 5.)

Exhibit 5



San Diego's defense face is also defined by the approximately 227,000 veterans who are estimated to currently live here. These individuals have served in various wars, including World War II, the Korean War, and the Vietnam War. A large number of younger veterans also are now in San Diego. The ending of the U.S. military commitments in Iraq and Afghanistan continues to drive increases in our veteran population, as San Diego is a primary destination of military personnel returning from those areas.

Mapping the Channels of Defense Spending in San Diego

Each of the three principal ways in which defense-related dollars (compensation; contracts and other spending; and benefit payments) enter the region's economy has distinct characteristics and effects. Because some of these channels have significant tributaries, the dollars entering the region can be further split into several distinct streams of influence. (See Exhibit 6.)

Exhibit 6

Defense Dollars Feed Directly into San Diego Region's Economy				
Millions of dollars, fiscal years				
	2012	2013	2014e	2015f
Active Duty Salaries	\$ 6,075	\$ 6,664	\$ 6,446	\$ 6,398
Reserves	\$ 137	\$ 136	\$ 144	\$ 139
Civilian Salaries	\$ 1,864	\$ 1,835	\$ 1,745	\$ 1,696
Non-Wage Compensation	\$ 3,333	\$ 3,306	\$ 3,110	\$ 3,087
Retirement and Veteran Benefits	\$ 3,442	\$ 3,634	\$ 4,339	\$ 4,546
Procurement Outlays	\$ 10,220	\$ 9,876	\$ 9,150	\$ 8,891
Government Purchase Card	\$ 69	\$ 64	\$ 65	\$ 66
Grants	\$ 75	\$ 91	\$ 85	\$ 84
Tourism	\$ 127	\$ 130	\$ 123	\$ 126
Total	\$ 25,342	\$ 25,737	\$ 25,208	\$ 25,033

e=estimate; f=forecast

Source: FBEI; CNRSW; USAspending.gov

Military and Civilian Salaries

The total payroll in terms of wages and salaries of Navy, Marine Corps (including recruits), civilian workers, and personnel in the reserves will total an estimated \$8.3 billion in fiscal 2014. The Navy and Marines Corps will have a total payroll of approximately \$6.6 billion, while the civilian payroll will total about \$1.7 billion. Wages and salaries paid to members of the reserves will sum to about \$144 million.

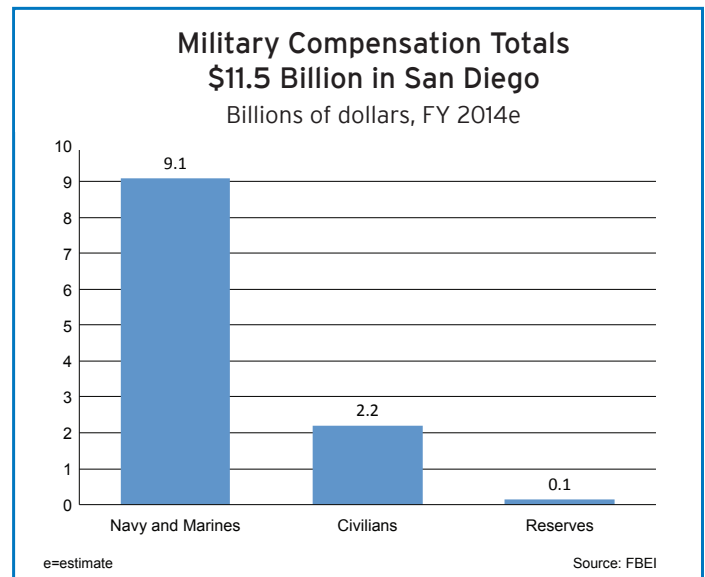
Enlisted personnel and officers in the Navy and Marines Corps support a wide range of job categories and skill sets. Excluding the recruits who come to San Diego for 13 weeks of initial training, the average pay for Navy and Marine Corps employees is about \$66,000 per year. For civilian workers, who include large numbers of scientists and engineers employed at SPAWAR, salaries average about \$73,000 per year. By comparison, the average salary in San Diego County across all sectors is an estimated \$55,000 per year.

Benefits

Members of the armed forces receive either military housing or a Basic Allowance for Housing (BAH) to live in housing off base. Housing allowances vary according to geographic location, pay grade, and whether the active duty member has dependents. For 2014, the average housing allowance for a mid-grade Petty Officer in the Navy or mid-grade sergeant in the Marine Corps is estimated at \$1,885 per month. Active duty personnel also receive compensation for spending on food or Basic Allowance for Subsistence (BAS). Officers in 2014 will receive a monthly BAS of about \$250 per month, while enlisted members receive about \$360 per month. Civilian DoD employees receive non-wage benefits in the form of health care, life insurance, and contributions to a savings plan for retirement.

Total benefit payments made to active duty and civilian personnel in San Diego County will sum to an estimated \$3.1 billion in fiscal year 2014. Combining wage and salary payments with benefits means that total compensation to all military employees will equal an estimated \$11.5 billion in fiscal 2014. Of this total, the Navy and Marines will account for about \$9.1 billion. Civilians will represent about \$2.2 billion in total compensation payments. Members of the reserves will account for about \$0.1 billion. (See Exhibit 7.)

Exhibit 7



Retirement and Veterans Benefits

In fiscal 2014, approximately \$4.3 billion will go to various San Diego residents who are retired military members, retired DoD civilian employees, and veterans. The DoD funds the first two groups, while the VA funds the latter. (See Exhibit 8.) These funds provide a vital base supporting income and spending in the region.

Payments to veterans residing in San Diego County in fiscal 2014 will total an estimated \$2.7 billion. Slightly more than one-half of this amount will represent pensions, while the remainder will be split between funding for medical care and educational or vocational training. (See Exhibit 9.) In addition, veterans have access to insured and guaranteed loans, which help support San Diego's real estate and housing sectors.

Exhibit 8

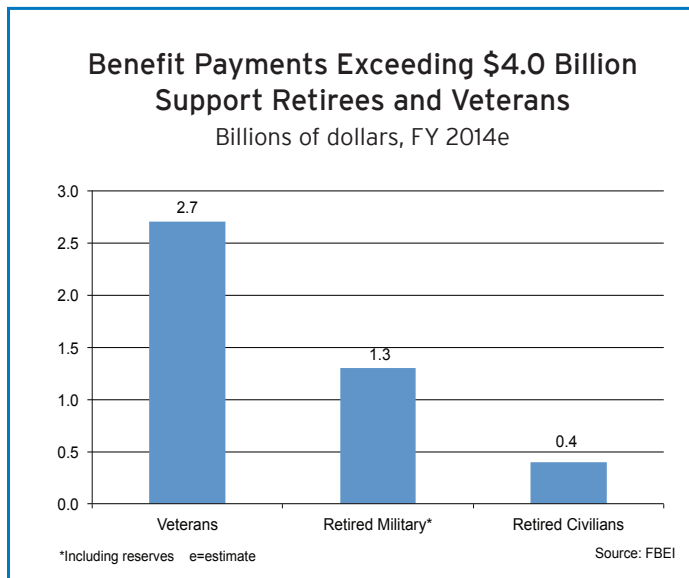
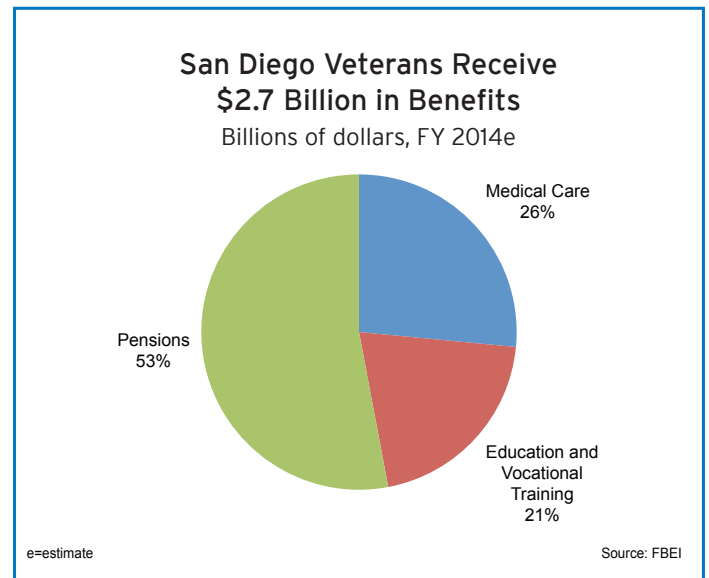


Exhibit 9



Procurement Contracts

During fiscal 2014, an estimated \$9.2 billion will flow into San Diego County from procurement contracts with various branches of the DoD. San Diego has a large cluster of firms that benefit from these relationships. Leading companies and industries involved with defense contracts include aircraft, engineering, shipbuilding, engineering, scientific research, and construction. (See Exhibits 10 and 11.)

Exhibit 10

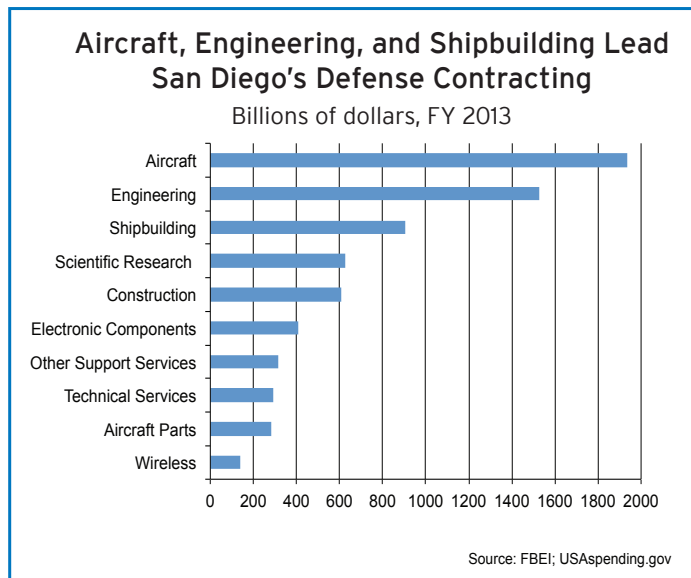


Exhibit 11

Defense Contracts Bolster San Diego Companies

Top 10 recipients, FY 2013

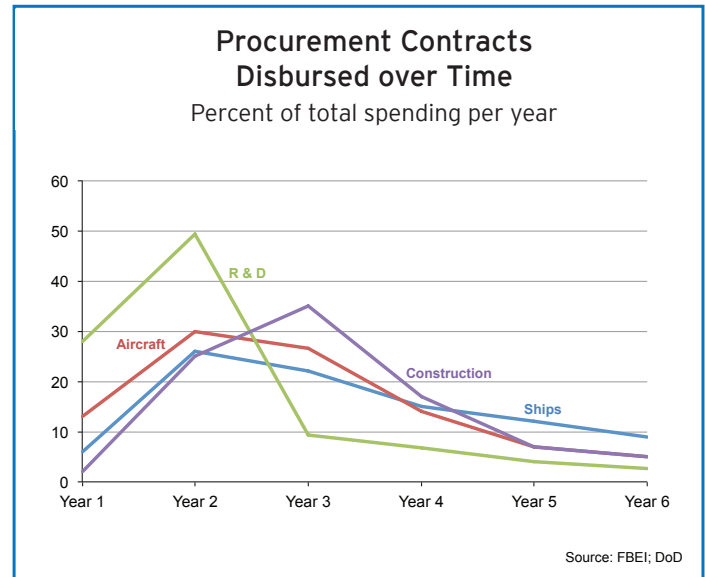
Company Name	Dollars
GENERAL ATOMICS	\$ 2,100,726,795
NORTHROP GRUMMAN	\$ 1,184,715,659
BAE SYSTEMS	\$ 484,166,531
SAIC	\$ 259,728,993
NATIONAL STEEL AND SHIPBUILDING	\$ 259,454,977
RAYTHEON	\$ 152,885,836
VIASAT	\$ 150,181,789
BOOZ ALLEN HAMILTON	\$ 142,282,563
CUBIC	\$ 109,525,444
SODEXO	\$ 103,190,595

Source: FBEI; USAspending.gov

Procurement spending in fiscal year 2014 is estimated to be off about 7% from the prior year's total. This largely reflects the steep 22% plunge in contract awards during the sequestration year of fiscal 2013. While contract awards are expected to be up about 4% in fiscal 2014, actual outlays this year will reflect the impact of the cuts of 2013 as well as prior years. Many defense contracts extend over a considerable period of time. For instance, construction projects involve phases of design and engineering, acquisition of materials, hiring of subcontractors, site preparation, and actual building.

Spending on defense contracts can span a period of five years or even longer. (See Exhibit 12.) R&D contracts typically are relatively short-term in nature, with much of the work completed within the first two years. Aircraft projects frequently see a peak of activity in the second year, while construction projects peak in the third year. For both of these industry contracts, sizable amounts of work continue into the two or three subsequent years following the peak. Shipbuilding has the most even build-out rates, with about 10-20% of project funds expended during each of the six years of a typical project.

Exhibit 12



Other firms contract with the Navy and Marine Corps to provide a wide range of goods and services to carry out the operations and maintenance functions of the facilities based in the County. These include food service, janitorial, telecommunications, logistics, and other facilities support functions.

Government Purchase Cards

In addition to the goods and services furnished to military operations based in San Diego County through various procurement contracts, smaller transactions (less than \$3,000) are carried out using government purchase cards. These purchases, which are estimated to total about \$65 million in fiscal 2014, benefit a wide range of businesses in the region. These include construction companies (frequently hired for repairs), various business services (such as printing), retailing (such as repair parts), building materials, electronic components, and laboratory instruments.

Grants

Grants from the Defense Department represent another funding channel for San Diego firms, with the total estimated at about \$85 million for fiscal 2014. These underwrite a variety of research efforts related to medical, weapons, alternative energy, intelligence, and other military issues. The majority of these grants go to universities for research work.

Tourism

Completing the total procurement and spending stream of the military's influence on San Diego, tourism injects funds into the area. While generally not funded by the government as are the other components of defense-related dollars, visits by government officials, business travelers, and family members or friends of military personnel and civilian workers employed by the DoD bring a significant sum of funds from outside the region into San Diego each year.

Considerable tourist dollars come to the region because of the numerous graduations that take place each year at the Marine Corps Recruiting Depot (MCRD). In fiscal 2014, about 14,500 individuals will graduate from the facility. Approximately 48,000 family members and friends will come to the ceremonies over the course of the year, spending an estimated \$23 million on hotels, food, and entertainment.

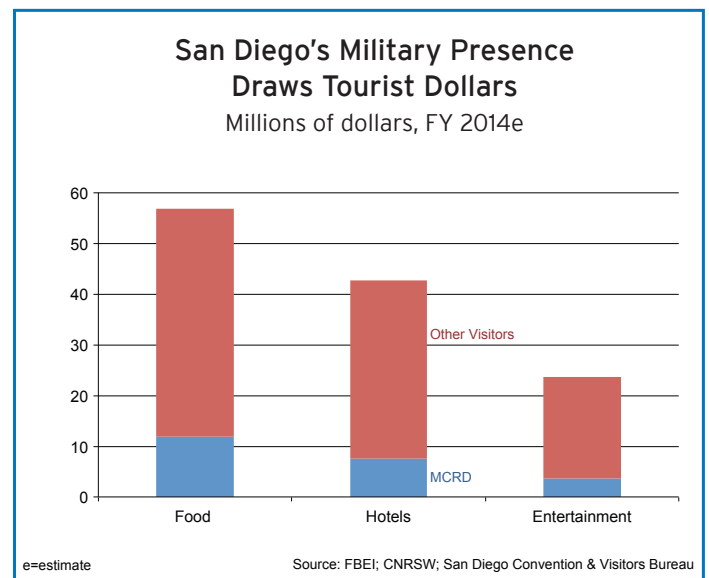
Conferences and conventions related to the military bring tourist dollars to the region. Two major professional organizations host significant conventions and industry conferences in San Diego each year. The Armed Forces Communications and Electronics Association (AFCEA) stages a major convention for the West Coast focusing on communications, electronics, intelligence, warfare systems, imaging, and other issues. The National Defense Industrial Association (NDIA) also holds important conferences, including its annual Gold Coast meeting that focuses on opportunities for small business.

SPAWAR receives large numbers of business and government partners doing business on various projects during the year. These face-to-face meetings are often essential for implementing and coordinating complex initiatives. In fiscal 2013, approximately 55,000 badges were issued for access to the controlled and restricted areas of SPAWAR at its Topside, Seaside, and Bayside locations. Government officials and medical practitioners also visit the military's two major hospitals in the region to observe and learn from some of the groundbreaking treatment and systems used at these facilities.

Spending by individuals visiting those currently employed in San Diego because of the military's operations here represent additional tourist dollars.

Tourism linked to the military's presence in the region is estimated at a total of \$123 million in fiscal 2014. Of that amount, restaurants will receive about \$57 million, hotels will see about \$43 million in revenues, and entertainment facilities will gain approximately \$23 million. (See Exhibit 13.)

Exhibit 13



Tracing the Ripple Effects of Defense Dollars

The impact of all of the direct spending of dollars connected to the nation's security (compensation, procurement, other expenditures, and benefit payments) is only the starting point for measuring the impact on San Diego. Two additional dimensions are important.

First, supply chain effects are significant. For example, once a firm receives a contract to complete a construction project on a military base, it will need to purchase building materials and hire workers to carry out the work. Second, consumer spending will receive a boost. Workers employed by the prime contractor plus those benefiting along the supply chain will spend a part of their related earnings on various goods and services produced in San Diego.

Accounting for the supply chain and consumption effects means that each dollar of defense-related expenditures goes much further than its face value in creating jobs, income, and additions to the region's GRP. (See Exhibits 14-16.)

Exhibit 14

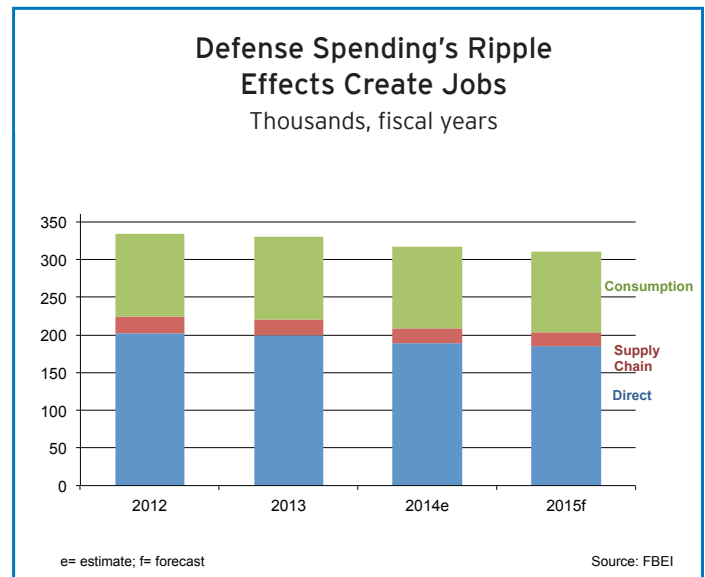


Exhibit 15

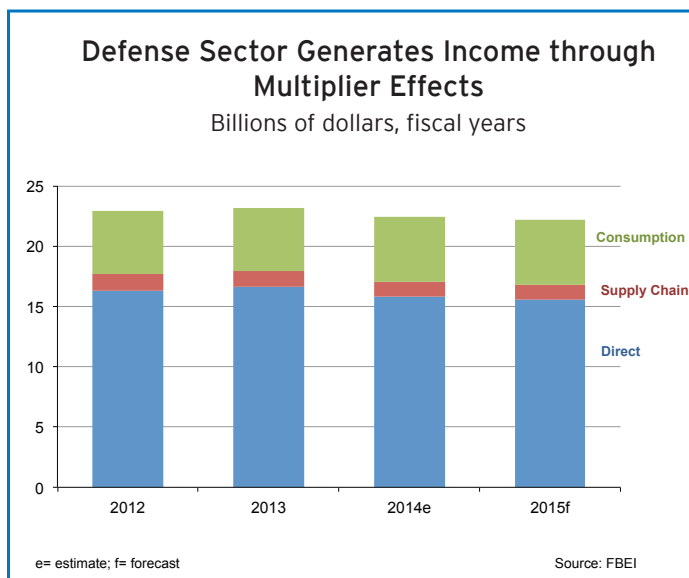
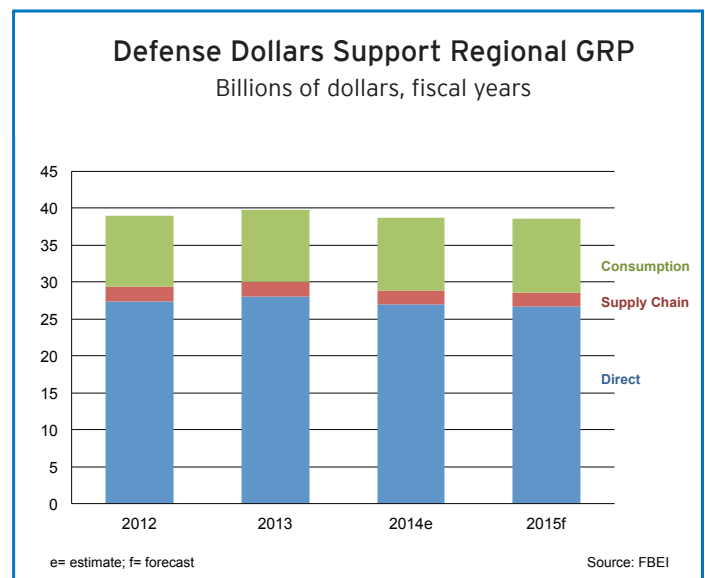


Exhibit 16



Large San Diego Impact in 2014

The estimated \$25.2 billion of direct defense-related spending is exerting a major impact on San Diego's economy in fiscal 2014. Incorporating all of the ripple or multiplier effects, the military will be responsible for about 317,000 of the average number of jobs existing in San Diego in 2014. These jobs are being accompanied by \$22.4 billion in income or earnings accruing to wage and salary workers along with various business proprietors. The total impact of defense-related spending is generating an estimated \$38.7 billion of output or GRP in the San Diego region in 2014. (See Exhibit 17.)

The military's total impact on the region represents about 20% of San Diego County's GRP. If San Diego's military complex were a separate entity, it would rank among the nation's 75 largest metropolitan areas in terms of GRP. Its magnitude is similar to the GRPs of Greensboro, North Carolina or Albuquerque, New Mexico.

To appreciate the importance of the reach of defense spending in the region, consider the influence on the job market. In 2014, the military and its indirect effects will be responsible for 22% of all of the jobs existing in San Diego County. (See Exhibit 18.) The jobs emanating either directly or indirectly from defense-related dollars represent a large variety of industries. These include engineering, food services, private education, health care, real estate, construction, and retailing. (See Exhibit 19.)

Exhibit 17

The Military Remains Key San Diego Driver

FY 2014 estimate*

Jobs (thousands)	317
Income (\$ billions)	\$22.4
GRP (\$ billions)	\$38.7

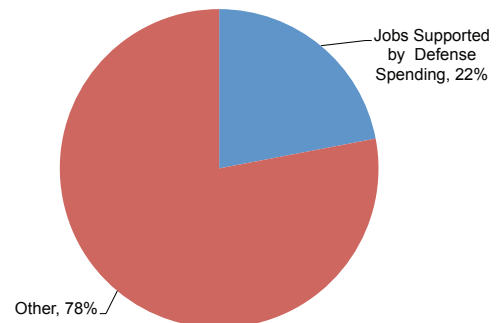
*Includes all ripple or multiplier effects

Source: FBEl

Exhibit 18

Military Responsible for 22% of All San Diego Jobs

Share of total, FY 2014e



e= estimate

Source: FBEl

Cyber security has become integral to all business and personal transactions. As information technology's pervasiveness has grown, so too have the threats to these networks and the spending to defend them. SPAWAR employs nearly half of all the 13,000 cyber security professionals in San Diego County.

The unemployment rate would be lower in San Diego if the uniformed personnel based in the region were included. Official statistics from the U.S. Bureau of Labor Statistics exclude members of the armed forces from both the labor force and employment counts. The jobless rate would be nearly one-half of a percentage point lower if the military were included. For example, the jobless rate at midyear 2014 in San Diego County was 6.1%. The true jobless rate, incorporating the impact of Navy and Marine personnel, was 5.7%. (See Exhibit 20.)

Exhibit 19

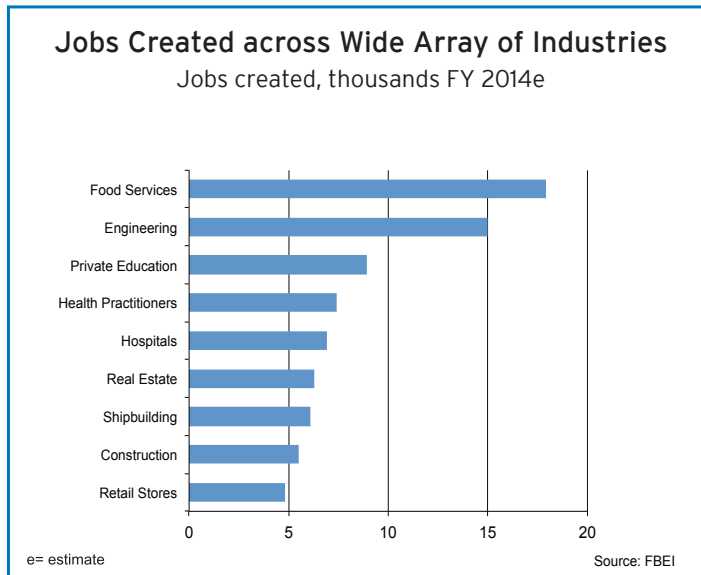
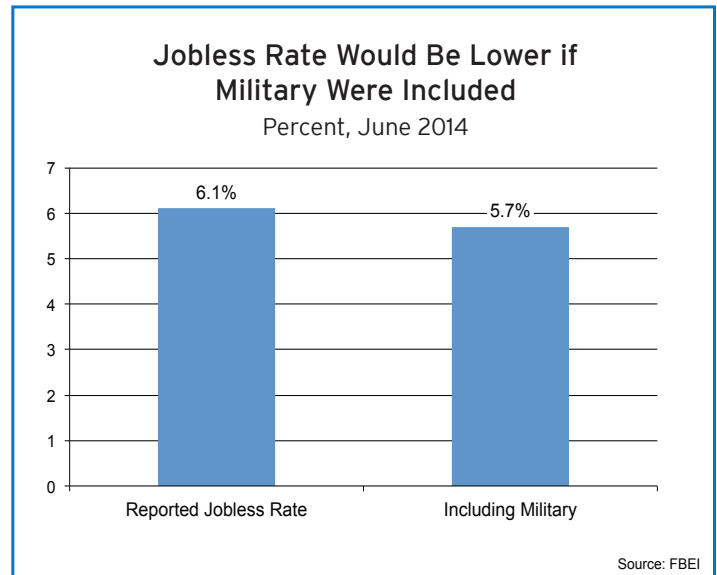


Exhibit 20



The Budget, Afghanistan, and National Defense Spending

The impact of sequestration, which mandated across-the-board cuts in military spending in fiscal 2013, was significant. Although Navy employment grew, partly because of the increase in aircraft carriers from one to two, the number of Marines was reduced substantially. Benefit payments to retirees and Veterans helped to steady the total amount of direct spending, but contracts dropped sharply. Further effects of sequestration, particularly on the contract side, have continued to ripple into 2014. The ultimate impact is still to be determined as more complete and revised data is received. The uncertainty and disruption to planning in both the defense and private sector caused by sequestration was, however, pronounced. (See Exhibit 21)

Exhibit 21

Defense Spending Plays Major Role in San Diego's Economy				
	Fiscal years			
	2012	2013	2014e	2015f
Direct Spending (\$ billions)	25.4	25.8	25.2	25.0
Jobs (thousands)	334	330	317	310
Income (\$ billions)	22.8	23.2	22.4	22.2
GRP (\$ billions)	39.0	39.8	38.7	38.5

e= estimate; f=forecast

Source: CNRSW; FBI

The amounts of future funding remain far from assured. Congress gave the military some respite when it approved at the end of 2013 a plan to suspend sequestration for two years. While the DoD escaped harsher cuts, it continues to face budget constraints at a time when foreign military risks are escalating. These threats now encompass Syria, Iraq, Iran, Russia, China, North Korea, and the ongoing and growing risk of terrorist attacks.

Overall budget authority (including both discretionary and non-discretionary spending) for the DoD has fallen from about \$700 billion in fiscal 2011 to less than \$600 billion in fiscal 2014. (See Exhibit 22.) Congress is eventually expected to appropriate about \$491 billion as the base level for discretionary spending for fiscal 2014, which would be slightly higher than the \$487 billion appropriated in fiscal 2014. (See Exhibit 22.) However, the funds appropriated for Overseas Contingency Operations (OCO) are likely to be cut from about \$86 billion to \$70 billion or less. The net result will be a reduction of at least \$12 billion in military discretionary expenditures. (See Exhibit 23)

Exhibit 22

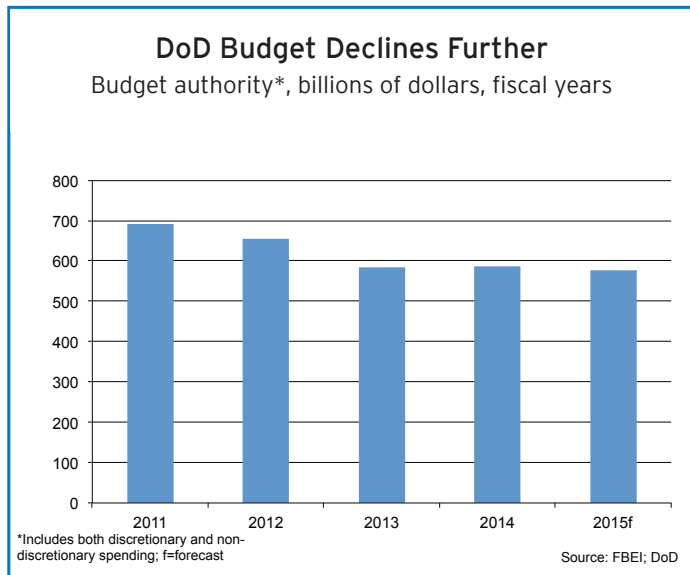
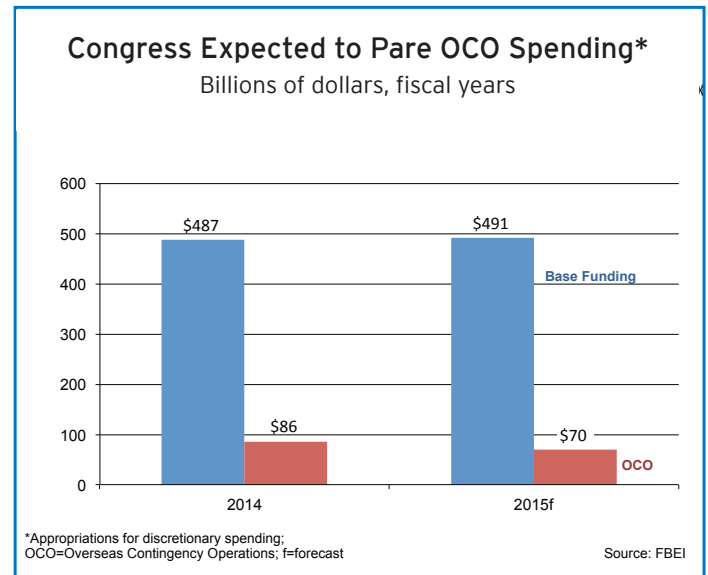
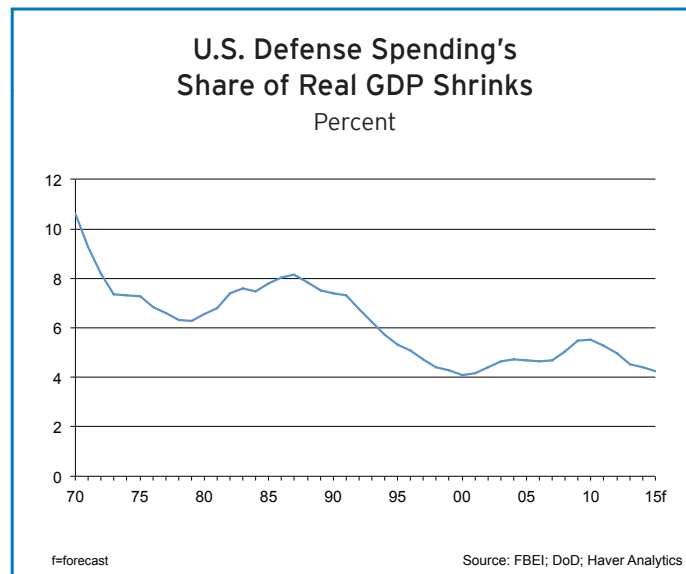


Exhibit 23



The secular, or long-term, decline in the share of the nation's resources dedicated to national security continues. From over 10% of real GDP in 1970, defense outlays as a share of national output have fallen to only around 4%. This trend was briefly reversed following the 9/11 terrorist attack but has again resumed. (See Exhibit 24.)

Exhibit 24



Military personnel levels have also been scaled down. President Obama has announced plans to cut U.S. troop levels in Afghanistan to 9,800 by the end of 2014 and then to 5,000 by year-end 2015. U.S. presence would then be pared back to essentially zero at the end of 2016. In contrast, at the peak in the spring of 2011, about 100,000 troops were based in Afghanistan and approximately 32,000 were there as of mid 2014.

The total number of active duty personnel is likely to fall by about 53,000 between the end of fiscal 2014 and 2015. The Army would bear the largest reduction at 30,000. Air Force personnel would be reduced by another 17,000. The Marine Corps would face a decrease of about 6,000 troops, while the number of Navy personnel would hold steady.

In August, with just two months to go before the beginning of fiscal year 2015, Congress recessed without the Senate approving an appropriations bill. It appears that the new fiscal year will begin with the government funded through another Continuing Resolution (CR). A CR is likely to remain in place for most of the first half of fiscal 2015. Congress may resume the budget debate in earnest in January and eventually pass an appropriations bill that would take place by early spring.

The positive aspect of operating under a CR is that funding will continue at the prior year's actual level rather than at a lower amount that otherwise might have been approved. The negative impact comes from the fact that new contracts cannot generally be signed even where projects have been previously authorized. Uncertainty regarding the funding of various programs will also hamper business decisions on investing and hiring.

Defense Spending and San Diego in 2015

Uncertainty about the ultimate outcome of budget negotiations for fiscal 2015 and the return of sequestration in fiscal 2016 again makes forecasts for the coming years difficult. San Diego will not escape pressures to shrink the national defense budget, but the region is expected to fare better than most other areas possessing significant defense clusters.

As noted in last year's report, several major elements of current U.S. national security strategy will work in San Diego's favor. These elements also speak to many of the unique advantages San Diego brings to the nation in meeting its defense objectives and why any efforts to relocate parts of operations based here could not only reduce efficiency and raise costs but also jeopardize national security.

- The rebalancing of the nation's Naval operations towards the Asia Pacific region. This will see the Navy redeploy its forces from the previous 50/50 percent division between the Pacific and Atlantic oceans to a 60/40 percent split by 2020.

- An elevation of resources devoted to cyber security, which will support a rapidly growing cluster in the region. The DoD recently proposed a five-year cybersecurity budget of more than \$23 billion. San Diego's strong military presence means many of these resources will be deployed regionally.
- The need for flight training, highlighting the importance of San Diego's bases since two-thirds of the nation's military training airspace is in the Southwest.
- A greater reliance on special operations forces, which will bolster certain military contingents active in San Diego, such as the Navy Seals.
- A focus on rapid-response forces needed for such situations as embassy attacks, terrorist strikes, or humanitarian disasters will align with the competencies of the Marine Corps.
- An emphasis on unmanned military aircraft and weapons, benefiting a number of San Diego firms that have developed expertise in the field.
- An acceleration of efforts to boost efficiency and productivity, which should bring additional business to companies developing more cost-effective software and equipment.
- Continued efforts to achieve energy savings, which should support firms involved in producing more fuel efficient ships and vehicles.
- The focus on alternative and "green" energy sources, which should benefit a number of San Diego's firms specialized in this area.

Overall, direct spending on national security through its various channels is expected to dip by about 1% in San Diego County in fiscal 2015 to \$25.0 billion from \$25.2 billion in the prior year. (See Exhibit 25.) The decline will be closer to 3% in real terms after adjusting for inflation.

Exhibit 25

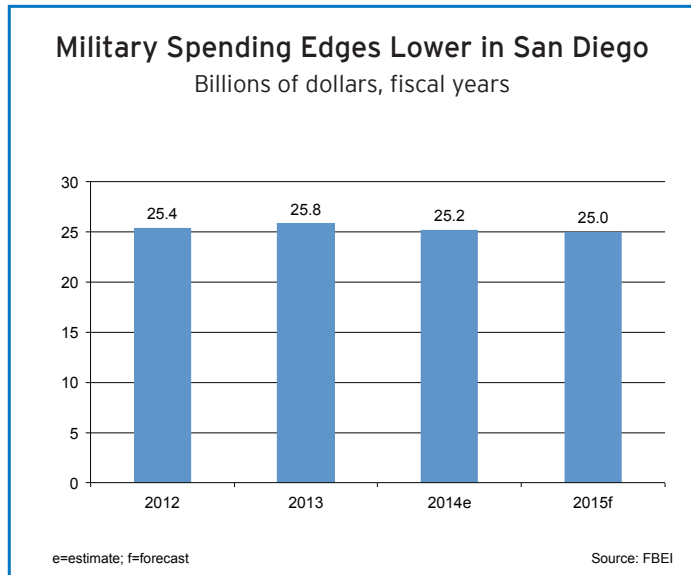
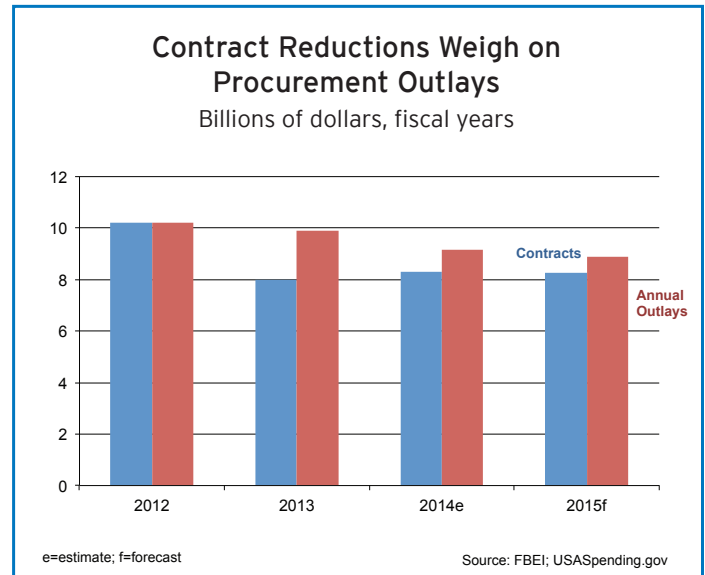


Exhibit 26



Various categories can be expected to fare quite differently. Procurement contracts are likely to fall considerably, particularly in the area of new construction. Prior cuts in contract awards, particularly the severe ones implemented in fiscal 2013, will continue to press downward on annual outlays. (See Exhibit 26.) The amounts of federal grants for research and government purchase card purchases are expected to each show relatively little change.

In terms of personnel, the average number of active duty, civilian, and reserve employees is expected to average about 130,300 workers in fiscal 2015 in San Diego County compared with approximately 133,000 in fiscal 2014. (See Exhibit 27.) The number of Navy employees is expected to hold steady, while the reserve count falls by about 400. The Marines Corps faces the largest risk of some downsizing based on national DoD plans. While the number of new recruits is expected to rise following the sharp cutbacks of 2014, the total number of Marines could be reduced by another 1,400. Civilian employee numbers could also be decreased by about 900. A number of full-time positions in the Marine Corps vacated as a result of retirements or other departures could be left empty or filled more slowly. Civilian counts could also be reduced through retirements or other attrition. A reduction in personnel counts will also mean probable reductions in the dollar value of overall wage and salary payrolls and a decrease in the total size of non-wage benefits.

Exhibit 27

San Diego's Military Employment to Ease Modestly				
Number of jobs, fiscal years				
	2012	2013	2014e	2015f
Navy	50,651	51,056	49,095	49,100
Marines*	56,990	54,450	51,431	50,000
Reserves	8,199	8,200	8,595	8,200
Civilian	23,524	25,378	23,895	23,000
Total	139,364	139,084	133,016	130,300

*Including recruits e=estimate; f=forecast Source: CNRSW; FBI

In contrast, benefit payments for retirees and veterans are expected to rise further. The focus on improving health care and other services for veterans has accelerated over the past several months. Congress also shows little inclination to cut other benefits, such as payments for retirees. Tourism is set to see a modest boost from the anticipated increase in training and graduation numbers at MCRD.

On balance, the combined effects of a reduction in total contract spending together with declines in military-related personnel numbers, total wages, and total benefits will likely imply a smaller total contribution to San Diego's economy in fiscal 2015 compared with fiscal 2014. The total amounts of income and GRP are each projected to fall about 1% to \$22.2 billion and \$38.5 billion, respectively. Adjusting for inflation, real declines will amount to about 3%. The average number of jobs directly or indirectly linked to the defense sector is projected to also ease modestly to about 310,000 from the 317,000 estimated for fiscal 2013.

Defense and military-related activities will remain San Diego's most important economic drivers in 2015, but the dollars and amount of economic impact are starting to level off.

Conclusions

The need for deficit reduction will clash with growing and increasingly complex global security risks during the next several years. The outcome of the debate between maintaining a larger military force versus moving to a smaller, technically advanced military will be important. San Diego could adapt to either scenario but could need to shift its focus depending on the outcome.

Progress in reducing the growth of the national debt will ultimately need to be addressed. The result could be that defense and other discretionary spending (requiring annual appropriations by Congress) will bear the brunt of cutbacks.

The rise of China as a major military power and other risks in Asia underpin the rebalancing of U.S. defense strategy towards the Pacific Ocean. San Diego's military cluster will be vital to implementing that strategy.

The region's complex of bases and infrastructure manned by the Navy and Marine Corps, its harbor and ship fleet, and its vital air training space all highlight its core strength. San Diego's network of firms with expertise in shipbuilding, unmanned vehicles and equipment, new defensive and offensive weapons, cyber security, electronics, wireless communications, computer systems, energy, and environmental science all speak to its comparative advantage in meeting the nation's defense needs.

The impact of the military through its bases and personnel located here, defense contracts awarded to local firms, and the income and other benefits accruing to retirees and veterans will continue to play a major role in San Diego's economy in the period ahead. Nevertheless, the region can be expected to see effects of the military's downsizing and spending cutbacks going forward. Firms supporting the military, either directly or indirectly, face enormous uncertainties about the future of various contracts and programs.

To mitigate these effects, several strategies will be important:

- The region's political, civic, and business leaders should fully understand what the military brings to San Diego and what San Diego brings to the country in terms of national security.
- The region's leaders need to be able to articulate to congressional members and other policymakers the value of San Diego's contribution and the disruptions or risks that could arise from various spending decisions or efforts to shift certain functions out of the region.
- The region's business and public communities need to impress upon congressional leaders the importance of enacting annual budget items in a timely fashion and avoiding the chaos of a CR.
- Businesses currently dependent on military contractors will need to diversify their customer bases by finding new applications for their products and services in commercial or consumer markets.
- San Diego firms will need to improve their lead in cutting-edge technologies as competition for a piece of a smaller procurement budget pie intensifies.
- SPAWAR and private firms need to work more closely together to facilitate the transfer of the large amounts of valuable technology from the Navy's research labs to the private sector.
- San Diego's military and the private sector need to expand further programs to boost STEM (science, technology, engineering, and mathematics) education and to attract more young people into the field.
- San Diego's local government leaders need to understand the vital support to the region's economy provided by the military's presence here and ensure that policies support rather than impede operations of the Navy and Marine Corps.
- Various programs and efforts to assist veterans with education, training, and other needs should be consolidated and streamlined. San Diego faces a continuing large influx of returning veterans. Helping these individuals find jobs and successively integrate back into a non-combat environment is of great importance.

The military and defense-linked activities can be expected to have a powerful influence on San Diego's economy for many years into the future. San Diego firms and policymakers need to partner with the defense community to ensure that the region retains its supportive role while developing ways to apply defense-related technologies and products to new markets.

Methodology

The methodology of this study entailed two major phases. First, data on the different aspects of the primary channels through which defense-related spending affects San Diego was collected, estimated, and forecast for the four fiscal years, 2011 through 2014. Second, the IMPLAN® V3.0 modeling program was used to estimate the ripple impact on the economy in terms of employment, income, and GRP through supply channel and consumption effects. IMPLAN® is a well known economic programming model widely used in economic impact analysis.

Direct Spending Inputs

The dollar amounts linked to national security flowing into the region were organized into six categories.

Compensation

The numbers of active duty, reserve members, and civilian workers were obtained from records accessed by the Commander, Navy Region Southwest (CNRSW) for 2011 through 2014. Dollar payroll amounts were obtained through 2013. Average annual pay rates were calculated for each year. Projected personnel counts for 2015 were then developed based on national plans published by the DoD, consultations with military officials in San Diego, and estimates by FBEL. The accompanying 2014 and 2015 wage rates were projected based on actual and expected cost-of-living increases.

The housing portion of active duty compensation was based on the BAH established by the DoD each year. Working in consultation with CNRSW, the BAH for E5 employees was used as an average with an even split between the BAH given to employees with dependents and those without. The BAH for fiscal 2015 was derived using an annual 1.0% increase, which was consistent with recent annual raises. The value of housing provided to active members living on base was assumed to be equal to the BAH. The total value of housing benefits each year was then calculated as the product of the number of active duty personnel multiplied by the estimated BAH.

The BAS was based on numbers published each year by the DoD for officers and enlisted personnel. Estimates were made for the ratios of officers to enlisted personnel for both the Navy and Marines Corps. An inflation factor of 2.0% was used for fiscal year 2015, based on the expected rise of food costs. The total value of the meal spending benefit each year was then calculated as the product of the number of active duty personnel in each branch/category multiplied by the BAS.

Civilian benefit payments for health care, savings plan contributions, and insurance was estimated as equal to 26% of total wages.

Retirement and Veterans Benefits

The numbers of retired and civilian workers together with their total benefits for fiscal 2011 through 2013 were obtained from the CNRSW. Estimates for fiscal year 2014 and forecasts for fiscal year 2015 of both retiree numbers and benefits were developed based on expected retirement plans, location trends in San Diego, and expected cost-of-living adjustments.

Total benefit payments made to veterans in San Diego County were obtained for fiscal years 2011 through 2013 from the VA. FBFI estimated the number of veterans for fiscal years 2014 and 2015 based on expected separation rates from the armed forces, demographic trends, and location patterns in San Diego. FBFI projected the average veteran benefit payments for health care, education, vocational training, and pensions for fiscal 2014 and 2015. Total benefit payments were then computed.

Procurement Contracts

DoD and VA procurement data for fiscal years 2006 through 2013 was obtained from the government sponsored website, USASpending.gov. FBFI collected data based on location of contract performance and used only zip codes located in San Diego County. The data was next sorted in ascending order of dollars spent by NAICS category to determine the industries receiving the largest amounts of procurement funding. The data was also sorted by corporation to determine which companies receive the largest amounts of procurement funding.

Allocation distribution rates (indicating the annual outlay rates on various types of contracts, such as aircraft, shipbuilding, electronics, research, and other procurement orders) over a period of years were obtained from the Comptroller, Office of the Under Secretary of Defense. Specific allocation rates for the Navy were used where available. FBFI projected procurement contract values for fiscal years 2014 and 2015 based on DoD fiscal year 2015 budget estimates and assumptions about congressional final decisions and the impact on San Diego defense sectors. Annual spending totals were then calculated for individual industries for each year by summing amounts accruing from the contracts of the current and preceding years.

Government Purchase Cards

Government Purchase Card data was obtained for 2012 and 2013 from CNRSW and the Naval Supply Systems Command Fleet Logistics Center. Estimates for 2014 and 2015 were made by FBFI based on spending plans implemented in the past year, projected personnel levels at the various San Diego military facilities, and budget targets.

Grants

DoD and VA grant data for fiscal years 2011 through 2013 was obtained through the USASpending.gov website. FBEI sorted the data by county and deleted any samples that were not in San Diego County. This was completed in much the same way as the procurement data was collected. FBEI then projected totals for fiscal years 2014 and 2015.

Tourism

Tourism related dollars were divided into four categories: visitors for Marine recruits graduating each year, visits from family members and friends visiting active duty and civilian workers employed by the DoD in San Diego County, visitors to conferences along with travel by business and government officials connected with SPAWAR, and visits by government officials and others to the Navy's two major hospital facilities.

The number of graduates from the MCRD for fiscal years 2011 through 2014 was obtained from MCRD. Forecasted graduate totals for fiscal year 2015 were provided by the Marine Corps. Based on data from the San Diego Convention & Visitors Bureau, an average 3.3 visitors were assumed to travel to San Diego for each graduation and stay in the region for four days. The number of room nights booked for each year, hotel rates, and average spending on food and entertainment was determined for each year based on data from the Convention & Visitors Bureau and estimates by FBEI. Based on guidance provided by the Bureau and CNRSW, it was assumed that 95% of the visitors and money spent over the course of the four-day period comes from outside the San Diego region.

For active duty and civilian DoD employees, FBEI assumed that each would attract four visitor days per year (e.g., two individuals staying for two days each or one spending four days) from outside the San Diego region. It was assumed that half of these visitor days require a hotel room at the prevailing average \$130 San Diego daily rate based on the 2013 number from Smith Travel Research. Food expenditures were estimated at \$85 per visitor day for 2013, while average spending for entertainment was assumed at an average of \$40 per visitor day. Inflation adjustments and the estimated number of DoD personnel were used to calculate the 2014 and 2015 figures.

For convention business related to SPAWAR, NDIA provided estimates of the number of attendees to its conferences for 2013 and FBEI estimated the number of attendees to the AFCEA annual convention. Estimates and projections were made for the other years. An estimated 50% of convention attendees were assumed to come from outside of San Diego County and spend between four to five days in the region. FBEI then estimated daily spending on hotels, meals, and entertainment.

SPAWAR provided numbers on visitors to its various offices for 2013. FBEI estimated figures for the other years and assumed that about 25% of them emanate from outside San Diego County. Average stays of two days were assumed and FBEI then estimated daily spending on hotels and meals.

For visitors to San Diego's two major hospitals, an estimated 150 people per quarter, or 600 annually, from outside the County were assumed to visit the region. Each person was assumed to stay an average of three visitor days and need three nights of lodging. Food expenditures were estimated for three days along with two days of entertainment expense. The daily rates for hotels, food, and entertainment noted above were also used for this segment.

Economic Impact Analysis

The IMPLAN© Model was used to map and analyze the dynamics and total impact of each of the channels of defense spending on San Diego County for each of the years 2012, 2013, 2014, and 2015.

The direct effect of military operations in the region was analyzed by inputting the information on total personnel counts and total payroll dollars. The estimated value of housing, food, and other benefits was included as part of total compensation. Benefit data for retired workers and veterans was analyzed by inputting the benefit dollar totals for different household income groups.

Annual spending totals for procurement contract allocations and grants were inputted into the various appropriate industry classifications for each year. Spending for goods and services from Government Purchase Cards was assigned to commodity groupings. Spending on hotels, food services, and entertainment was inputted for the appropriate industries to model the impact from the tourism channel.

All calculations were performed in current dollars (i.e., before adjustment for inflation). The model produced estimates for each year for the supply chain, consumption, and total impact of the various channels of direct spending in terms of employment, income, and GRP. The impact on individual industries was also computed. All results, including implied multipliers, were checked for accuracy and consistency.

SECTION II: THE IMPACT OF THE NAVY'S SHIPS ON SAN DIEGO

San Diego is home to a core part of the nation's vital Pacific Fleet and is critical to defending the interests of the United States and its allies in the Asia-Pacific region. Each ship home ported here can be considered an engine of economic growth, generating jobs, incomes, and output in San Diego County. This section seeks to identify the economic contribution from the different types of ships based here as well as to analyze the total economic impact provided by our area's total fleet.

The Fleet's Structure

The naval fleet in San Diego includes 49 surface ships, two nuclear aircraft carriers, and five nuclear submarines for a total of 56 operations based vessels. An additional seven Military Sealift Command (MSC) or logistics support ships operate out of San Diego, which are also not included in the ship analysis because they are operated primarily by civilian crews.

The Navy's fleet based in San Diego analyzed in this report spans ten different types of ships, each with specific and distinct characteristics, to carry out the nation's defense strategies. A brief description of each ship class home ported in San Diego, along with the number of ships in each class and average personnel counts, is given below.

CG (8 ships)

The Ticonderoga-class (guided missile cruiser) is a large combat vessel that was first commissioned in 1978. These ships are capable of performing in air warfare, surface warfare, undersea warfare, and naval surface fire support. They can be operated independently or in support of carrier battle groups or amphibious forces. The addition of Tomahawk cruise missiles gives these cruisers long-range strike warfare capability. These ships utilize a crew of 363.

CVN (2 ships)

Aircraft carriers are considered the centerpiece of America's naval forces. They perform the Navy's core capabilities, including power projection, humanitarian assistance, sea control, and maritime security. The Gerald R. Ford-class was commissioned in 2008 to replace the Nimitz-class aircraft carriers. According to the U.S. Navy, this new class will be a primary asset in crisis response and early decisive striking power in a major combat operation. New innovations have been introduced to reduce the ongoing maintenance requirements of the ship, raise the capability of the air wing, and reduce total manpower requirements. The crew count for an aircraft carrier is about 3,200. This number does not include the typical airwing count, numbering approximately 1,600.

DDG (16 ships)

The Arleigh Burke-class destroyers (DDG 51) are fast, multi-mission warships. The first was commissioned in 1991. These destroyers are capable of operating independently or as part of carrier strike groups, amphibious groups, surface action groups, and replenishment groups. This class features many technological enhancements that greatly improve its versatility. These ships have an average crew of 312.

FFG (3 ships)

The Oliver Hazard Perry-class frigates are warships intended for general-purpose escorting, serving to protect amphibious expeditionary forces, replenishment groups, and merchant convoys from submarines. These frigates were first designed in the mid-1970s. Although the guided missile frigates are cost efficient and able to withstand a substantial amount of damage, they lack the multi-mission capabilities of their CG and DDG counterparts. These ships carry an average crew of 219.

LCS (4 ships)

The Littoral Combat Ship is a class of fast, small-sized, focused-mission vessels designed for operations in the littoral (near-shore) zone. They are also capable of open-ocean operation. The first LCS was delivered to the Navy in 2008. The LCS-class is composed of two variants: the Freedom-class and the Independence-class. These ships will be equipped with reconfigurable payloads, which are supported by special detachments, allowing the use of manned or unmanned vehicles and sensors used in various missions. These ships utilize a total crew of 100 each, with 50 on the ship at any one time. The crew rotates based on the operational packages that are currently on board.

LHA-LHD (5 ships)

The Tarawa-class LHAs and Wasp-class LHDs are known to be the largest of all amphibious assault warships. They resemble a small aircraft carrier. The first LHD was commissioned in 1989. Because these vessels are so large and have great storage capacity, they are used to transport and land elements of the Marine Expeditionary Unit as well as other aircraft and landing craft. Many of these ships have a well deck, which adds versatility to the ship and allows the use of other vehicles such as Landing Craft, Air Cushioned (LCAC). These vessels were utilized to transport thousands of Marines and their equipment to Iraq and Afghanistan. These ships have a total crew averaging about 1,200. This count does not include the Marines who embark for deployment, which typically averages about 1,800.

LPD (5 ships)

San Antonio-class ships are the Navy's newest class of Amphibious Transport ships, with the first one commissioned in 2006. In addition to supporting amphibious assault, expeditionary warfare missions and special operations, LPDs serve as secondary aircraft platforms for amphibious ready groups and can accommodate the USMC, V-22 Osprey aircraft. These ships have a crew of 396.

LSD (4 ships)

Dock Landing Ships are designed with a well dock to facilitate the transportation and launching of amphibious craft and vehicles. These ships were first deployed in 1995. LSDs have the largest capacity for Landing Craft Air Cushion (LCAC) vessels of any U.S. Navy amphibious platform. The total crew count for these ships is 378.

MCM (4 ships)

Mine countermeasure ships are designed to clear mines from vital waterways. The development of this force started in the 1980s and included two new classes of ships and minesweeping helicopters. These vessels utilize video and sonar systems, cable cutters, and a mine-detonating device that can be released and activated by remote control. The total crew for one of these ships is 84.

SSN (5 subs)

The Los Angeles-class submarines (SSN 688) were first commissioned in 1976 and have since been considered to be the backbone of the submarine force. Attack submarines are designed to seek and destroy enemy submarines and surface ships. These submarines have the power to project power ashore with mission capabilities, including the use of Tomahawk cruise missiles. Other mission capabilities, encompass the ability to carry out intelligence, surveillance, and special operations missions. The submarines offer battle group support and engage in mine warfare. These submarines have an average crew of 141.

Ships and People

A total of 56 ships are currently based in San Diego. (See Exhibit 28.) Destroyers (DDG) represent the class with the largest number of ships at a total of 16. Two of the nation’s aircraft carriers (CVN) are now based in San Diego: the USS Carl Vinson and the USS Ronald Reagan. Eight cruisers (CG) operate out of San Diego. Other ship classes in San Diego have two to five ships each.

Exhibit 28



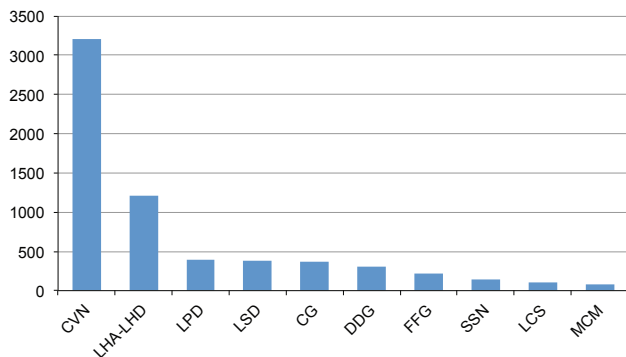
Even as ships have become more automated, sizable numbers of personnel are required to make each operate efficiently. The number of people working on each ship varies according to the ship's size, its complexity, and its specific mission. One hundred or fewer sailors typically man Littoral Combat Ships (LCS) or mine countermeasure ships (MCM), while an aircraft carrier typically requires over 3,000 people. Amphibious assault ships (LHA-LHD) generally require an average of about 1,200 Navy personnel for operations. Other types of ships frequently have 200-400 personnel on board. (See Exhibit 29.)

San Diego's total ship fleet employs about 26,000 men and women. Combining the effects of both the number of ships and the average number working on each ship class, about 6,400 Sailors, or nearly a quarter of the total, are employed on aircraft carriers. Nearly 5,000 individuals work on destroyers (DDG), while more than 6,000 personnel are associated with amphibious assault ships (LHA-LHD). (See Exhibit 30.)

Exhibit 29

Aircraft Carriers Each Employ Over 3,000 People

Average number of employees per ship, FY 2014e



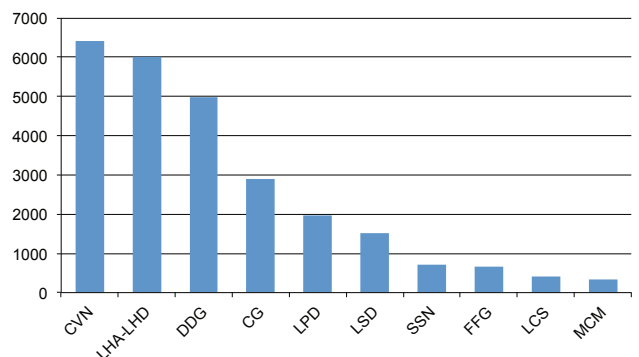
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Source: FBEl; CNRSW

Exhibit 30

San Diego Ships Employ 26,000 Sailors

Total number of employees per class, FY 2014e



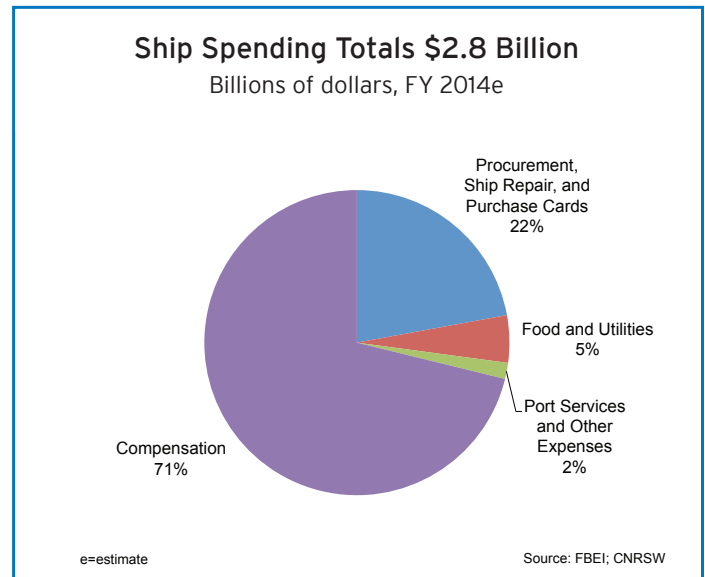
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Source: FBEl; CNRSW

Ships and Dollars

The amount of DoD dollars flowing into San Diego to operate San Diego's share of the Pacific Fleet is sizable at an estimated \$2.76 billion in fiscal 2014. (See Exhibit 31.) Over 70% of the total represents employee compensation. That amount includes the wages and salaries of ship personnel together with the value of housing provided to them. Just over one-fifth of the total spending on ships goes for contracted ship repair, other procurement contracts, and smaller purchases (under \$3,000) for various goods and services the ship may need either when docked in San Diego or deployed overseas.

Exhibit 31



Expenditures on food and utilities represent about 5% of the total direct expenditures on San Diego's naval ships. Electricity and water are the primary utility expenses, with electricity representing the dominant one. All ships have the capability of distilling fresh water from sea water when underway. The remaining two percent of direct outlays for ships represents spending for the removal of hazardous materials, harbor security, berthing, insurance, logistics, and other port services.

Charting the Ripple Effects and Total Economic Impact

In addition to the sizable economic effect from the spending required to operate each ship, considerable "ripple" or multiplier effects take place as those initial dollars start to feed through the region. As discussed in Section I, these secondary and tertiary effects involve both supply chain and consumption components. When a ship purchases goods and services, companies receiving the orders will need to purchase materials and equipment or possibly hire more workers. Much of the consumer spending by Navy personnel employed on the ship plus those employed along the supply chains will also feed into the economy. On average, for every \$100 directly spent on a ship, the region's GRP sees an additional \$65.

Wages and salaries of personnel assigned to different ships are spent primarily in the San Diego region either by family members residing here or by those deployed when they return. Sailors retain their local residences when deployed overseas (either base housing or supported by the BAH.) The spending on ship repair and other contracts, smaller purchases, food, utilities, and port services also primarily benefits the local economy.

The average amount of total direct spending on each type of ship ranges from almost \$14 million per year for MCM ships, to just over \$250 million for aircraft carriers (CVN). The total economic impact for various types of ships ranges from an average of about \$19 million for an MCM to \$486 million, or nearly \$500 million, for a CVN. (See Exhibit 32.)

Adding up the total contribution of San Diego's Navy fleet yields a total economic impact, or contribution to the GRP, of \$4.5 billion. This sum is comprised of the \$2.8 billion of total direct outlays plus another \$1.7 billion of ripple or multiplier effects achieved through the supply channels and induced consumer spending. (See Exhibit 33.)

Exhibit 32

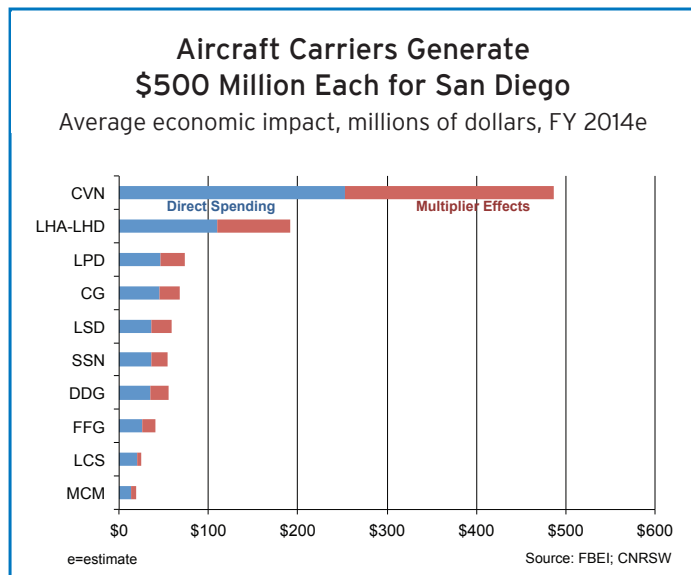
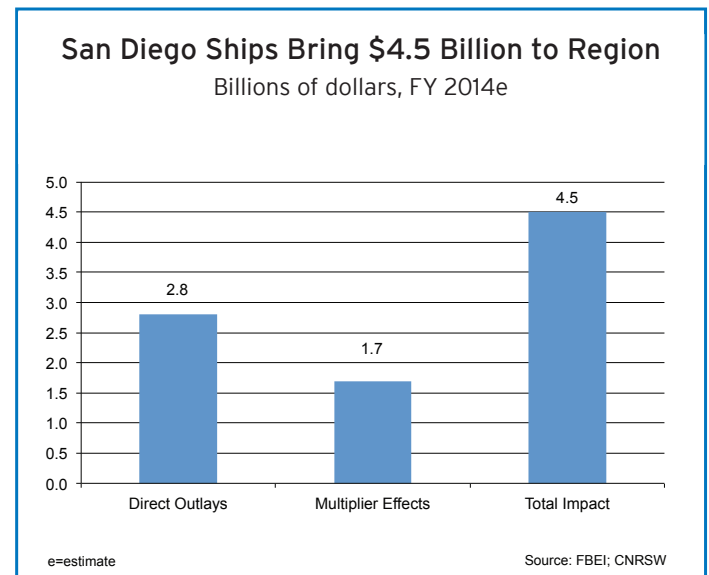


Exhibit 33



The distribution of the total \$4.5 billion of total economic impact reflects both the average for each ship class and the number of ships in each class. The 5 amphibious assault ships and two aircraft carriers each contribute close to \$1.0 billion to San Diego's economy. (See Exhibits 34 and 35.)

Exhibit 34

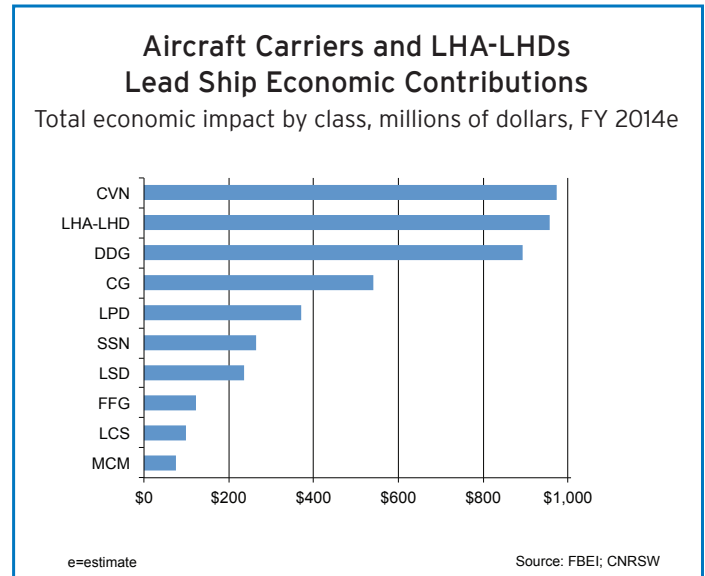


Exhibit 35

Ships Draw Jobs and Income to San Diego							
Dollars, FY 2014							
	# of Ships	Average Per Ship			Ship Class Totals		
		# of People	Spending	Economic Impact	# of People	Spending	Economic Impact
CVN	2	3200	\$ 253,178,485	\$ 486,102,690	6400	\$ 506,356,969	972,205,381
LHA-LHD	5	1204	\$ 110,027,606	\$ 191,448,034	6020	\$ 550,138,028	957,240,168
LPD	5	396	\$ 46,563,860	\$ 74,036,537	1980	\$ 232,819,300	370,182,686
CG	8	363	\$ 45,098,505	\$ 67,647,757	2904	\$ 360,788,037	541,182,056
LSD	4	378	\$ 36,530,250	\$ 59,179,005	1512	\$ 146,120,999	236,716,019
DDG	16	312	\$ 35,294,643	\$ 55,765,536	4992	\$ 564,714,293	892,248,583
SSN	5	141	\$ 35,711,122	\$ 54,107,898	705	\$ 178,555,610	270,539,489
FFG	3	219	\$ 26,179,668	\$ 41,102,078	657	\$ 78,539,003	123,306,234
LCS	4	100	\$ 20,532,491	\$ 24,844,314	400	\$ 82,129,963	99,377,255
MCM	4	84	\$ 13,756,951	\$ 18,984,592	336	\$ 55,027,804	75,938,369
Average/Total	56	640	\$ 62,287,358	\$ 81,052,433	25,906	\$ 2,755,190,006	\$ 4,538,936,241

e=estimate Source: FBEI; CNRSW

Conclusions

Approximately one of every ten dollars of defense-related direct spending in San Diego goes to support San Diego's fleet of 56 ships. The total economic impact generated by the ships home ported here accounts for about 12% of the total contribution made directly and indirectly from overall defense-related spending in the region.

The effect on the region of either losing or gaining a ship is underscored by the example of the close to \$500 million of output generated by an aircraft carrier. Despite budget cuts, San Diego's critical role in helping the nation rebalance its forces towards the Asia Pacific should see the size and value of its ship base expand further during the coming decade.

Ship Analysis Methodology

The ship data used for this study was compiled from a number of different sources. The primary source was the PLNU MBA thesis of Jose Neto ("The Economic Impact of Navy Ships on the San Diego Region: An Analysis of How the Presence of Navy Ships Affects the San Diego Economy," May 2013. Mr. Neto is a Contract Specialist for the U.S. Navy. Dr. Lynn Reaser, the primary author of this study, was thesis advisor.) For 2014 figures, the 2013 numbers were adjusted up for inflation. CNRSW supplied 2014 estimates for the submarine class.

Seven major cost components were examined for each ship and ship class. The first cost category involved payroll. This data came from the Defense Joint Management System. The figure includes the total compensation for active duty and civilian employees. FBEI estimated the housing component of total compensation based on the BAH.

The next two cost components were procurement contracts and purchase card data. Both of these data sets came from the Federal Procurement Data System – Next Generation. Purchase cards were separated from contracts because they are less than \$3,000. The fourth cost component examined at the ship and ship class level was utilities, including both water and electricity costs. The source for this data was the Command Navy Region Southwest Port Operations.

The food expense was next examined. A formula was used to calculate this component, which came from the Naval Supply Systems Command Fleet Logistics Center. Specifically, this formula used the basic daily food allowance rate, which was then applied to each Sailor per day. Hazardous materials (hazmat) disposal cost was also examined. This data came from Naval Facilities Engineering Command Southwest. The final cost parameter examined was classified as miscellaneous indirect expense. These are expense items that are incurred by the ship when it is in port, including harbor security and port logistics.

Some of the expenses were consistent across all of the ships in a given class, while other cost items were unique to each ship. Pay, procurement, including purchase cards, utilities, and hazmat costs were all unique to each ship. An average of each of these cost items was taken and used for each ship class. Some costs, such as pay and food, are dependent on the average number of employees assumed for each ship class. Others, such as procurement, purchase cards, utilities, and port costs, are more dependent on other factors, such as ship size.

Fuel expense is not included since precise data allocated by ship was not available. Also, most fuel is brought in by pipeline from outside the region, which means it has little impact on the local economy.

Once all of the per-ship costs were averaged for the class, the total figures by ship class were calculated. The ship class count figures for fiscal 2014 were provided by the Command Navy Region Southwest (CNRSW).

The IMPLAN© Model was used to map and analyze the dynamics and total impact of each of the ship classes on the value of total output, or GRP, for San Diego in 2014. Ten different models were constructed, reflecting each of the ship classes analyzed. Compensation and employee counts were inputted for the payroll expenditures. All other expenditure items were then allocated across the various industries affected by increases in sales or orders.

The model was then simulated for each ship class to derive the supply chain, consumption, and total economic effects for fiscal 2014.

SECTION III: SAN DIEGO COUNTY NAVY MEDICINE AND ITS PEOPLE

Navy Medicine is an integral part of the footprint and economic impact that the military has on the entire San Diego region, as this chapter will illustrate. Navy Medicine in the County is anchored by two major military treatment facilities. The largest is Naval Medical Center San Diego (NMCS), or Balboa, as it is affectionately called by many in the area given its location adjacent to the famous Balboa Park.

NMCS has played a vital role in the history of San Diego for more than 80 years. From its origin as a tent dispensary established in 1917 to the ultra modern high-tech facility that stands today, NMCS has cared for countless services members and their families throughout the years.

An average day at the hospital accomplishes an astonishing number of patient encounters. On any given day, NMCS staff fill an average of 5,300 prescriptions, conduct more than 6,400 outpatient visits, administer 1,250 vaccinations, and deliver 13 babies. (See Exhibit 36.)

The second medical treatment facility is the brand new Naval Hospital Camp Pendleton (NHCP) that services the more than 42,000 active duty personnel stationed on the base and their families, 77,000 retired military personnel who reside within a 50-mile radius of Camp Pendleton, and the 23,000 reserve personnel who train at the base each year.

A typical day at this facility involves 17 surgical procedures, approximately 2,000 outpatient visits, and nearly 4,000 laboratory studies. (See Exhibit 37.)

Exhibit 36

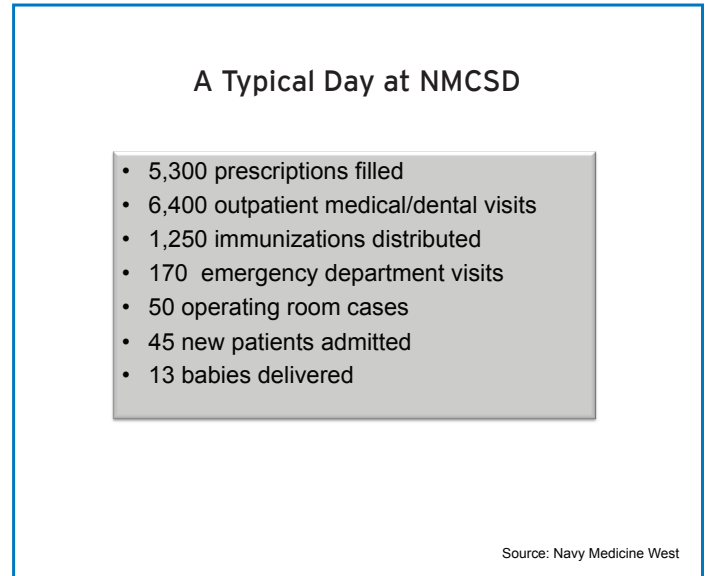
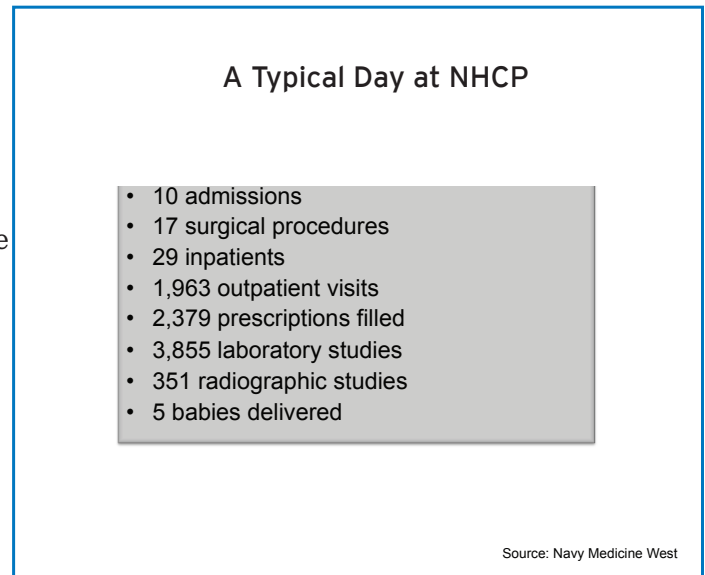


Exhibit 37



The People

There are over 8,000 people employed by the two facilities, encompassing both active duty and civilian personnel. At NMCS D there are 2,325 enlisted personnel, 1,297 officers, and 2,414 civilians who work together to accomplish the three-prong mission of the hospital. The medical staff of NMCS D is composed of 770 physicians (including interns and residents) and over 800 nurses. NHCP is a smaller command that is comprised of 755 enlisted personnel, 368 officers, and 877 civilian personnel. (See Exhibits 38 and 39.)

Exhibit 38

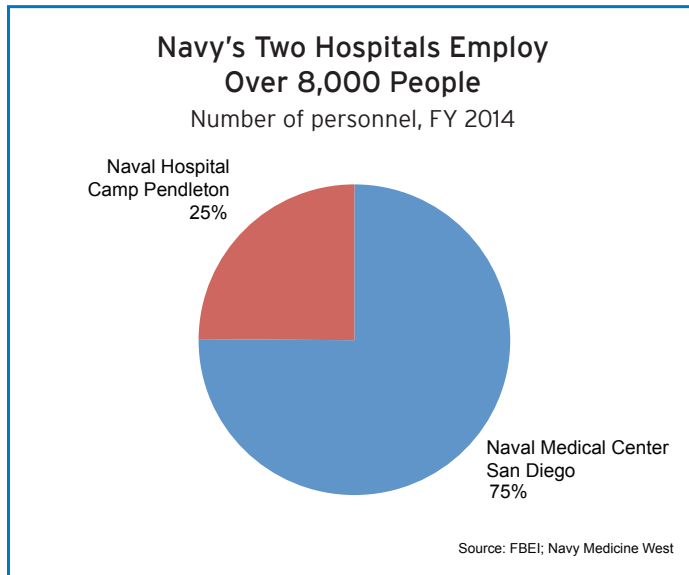
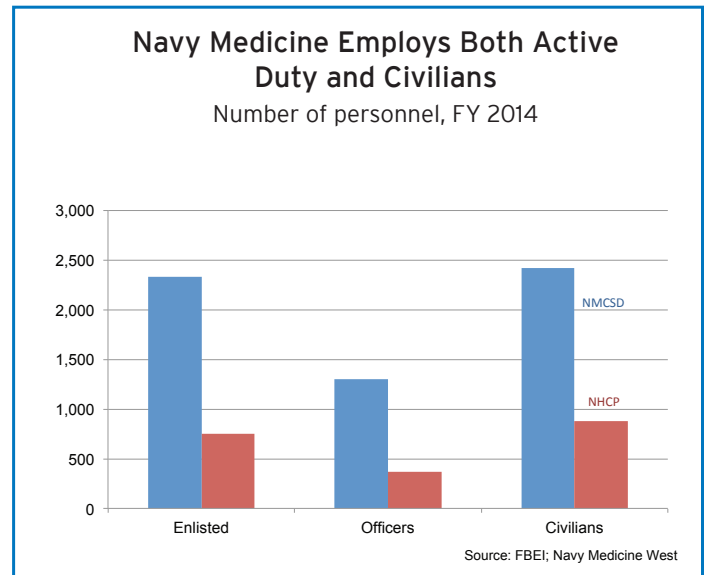


Exhibit 39



Naval Medical Center San Diego

NMCS D's mission is to deliver top quality patient-centered health care, to prepare and deploy military personnel in support of Combatant Commander requirements, and to shape the future of Navy Medicine through education, training, and research. NMCS D is a 272-bed multi-specialty hospital and ambulatory complex, with a staff comprised of more than 6,000 personnel.



The hospital and its branch health clinics treat more than 95,000 enrolled beneficiaries from Miramar to El Centro, Calif. NMCS D celebrated the grand opening of two new branch health clinics, Branch Health Clinic Eastlake and Rancho Bernardo, in April, 2014. The clinics each have 13 examination rooms.

NMCS D is the amputee center of excellence for the Western Pacific, caring for Marines assigned to Wounded Warrior Battalion West, Soldiers assigned to Warrior Transition Unit, and Sailors assigned to the medical transition company. In January 2014, NMCS D commemorated its 25th anniversary of the current facility in celebration of the hospital's dedication in 1988.

Services

Both hospitals are accredited by the Joint Commission ensuring safe and high quality health care. More than 250,000 San Diego residents are eligible for care at NMCS D, with nearly 100,000 beneficiaries enrolled. NMCS D has the only Navy Medicine amputee center in the Western Pacific. It has been recognized for many of its clinical and research programs, including refractive surgery, post-traumatic stress, and hearing and balance disorders. NMCS D personnel proudly deploy to support US Military Hospital Kuwait, the I and III Marine Expeditionary Forces, numerous humanitarian missions afloat and ashore, and as individual augmenters. Recently, the NMCS D staff has been recognized for excellence by such organizations as the American College of Surgeons, the American College of Obstetricians and Gynecologists, Athena International, and the San Diego Business Journal.

Naval Hospital Camp Pendleton

NHCP is a new 500,000 square foot, four-floor facility on a 70-acre site near the main gate of Marine Corps Base Camp Pendleton. The command transitioned to the new facility over a two-week period from December 2-15, 2013, and held a dedication/ribbon cutting ceremony on January 31, 2014, to officially open the facility.

The \$456 million construction project is the largest American Recovery and Reinvestment Act of 2009 project in the Department of the Navy. The hospital was delivered six months ahead of schedule and \$100 million under budget. The hospital contains 60 inpatient beds and 26 emergency room beds. The facility also provides outpatient and inpatient care for active duty, retired personnel, and family members.

Naval Hospital Camp Pendleton provides health care to an eligible beneficiary population of 157,000. In 2013, NHCP had 626,509 outpatient visits and 5,390 inpatient admissions. The Labor and Delivery Department had 1,500 babies delivered and the Pharmacy filled 1,689,661 prescriptions, and 3,494 surgeries were performed.



Services available include internal medicine, family medicine, pediatrics, ENT (Ears, Nose and Throat), cardiology, pulmonary, audiology, urology, optometry, ophthalmology, gynecology, gastroenterology, allergy, obstetrics, dermatology, orthopedics, sports medicine, mental health, general surgery, nuclear medicine, and emergency services.

Besides the core hospital, NHCP has four branch health clinics aboard Marine Corps Base Camp Pendleton plus one-off base clinic. It also has Branch Health Clinics at Marine Corps Air Station Yuma, Arizona, and Naval Base Ventura County, Calif.

Spending Channels for Navy Medicine

Direct spending for all categories is almost \$1.0 billion, which includes \$438 million for wages and salaries, \$184 million for benefits, \$105 million for facilities and maintenance, nearly \$91 million for pharmaceuticals, \$75 million for surgical appliances and supplies, \$58 million for family services, and \$28 million for utilities. (See Exhibit 40.)

Exhibit 40

Navy Medicine Injects Funds through Several Dimensions	
Thousands of dollars, FY 2014e	
Wages and Salaries	\$ 437,751
Benefits	\$ 183,794
Facilities and Maintenance	\$ 104,725
Pharmaceuticals	\$ 90,825
Surgical Appliances and Supplies	\$ 74,884
Family services	\$ 57,550
Utilities	\$ 27,635
Tourism	\$ 6,600
Total	\$ 977,169

e=estimate

Source: FBEl; Navy Medicine West

Compensation (Wages and Benefits)

The two facilities employ over 8,000 people in various capacities. This includes approximately 4,700 active duty military and almost 3,300 civilian employees. (See Exhibit 41).

Exhibit 41

Navy Medicine's Hospital Workforce Strategically Located				
Number of personnel, FY 2014				
	Enlisted	Officers	Civilians	Total
NMCS	2,325	1,297	2,414	6,036
NHCP	755	368	877	2,000
Grand Total	3,080	1,665	3,291	8,036

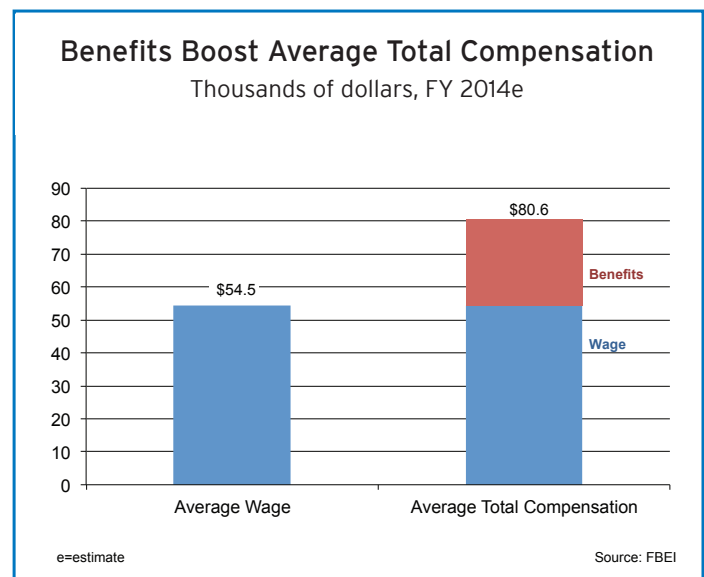
Source: CNRSW; FBI

The total wage and salary budget for 2014 is \$438 million for the two medical centers. In addition to wages and salaries, there is a sizable benefits component. Benefits amount to \$184 million, which include the BAH and BAS for military employees. Civilian employees enjoy benefit options in healthcare and life insurance (FEGLI) plans chosen by the employee. A Thrift Savings Plan (TSP), similar to a 401(k) plan for non-government employees, is available, with the government matching up to five percent of an employee's contribution.

The average wage is \$54,474 for each of the more than 8,000 employees of the two hospitals. However, when benefits are added (including the implicit value of healthcare provided to active duty members at the hospital facilities), the average total compensation of hospital employees is \$80,613. (See Exhibit 42.)

Benefits account for roughly 32% of the total compensation for an average employee at the hospitals.

Exhibit 42

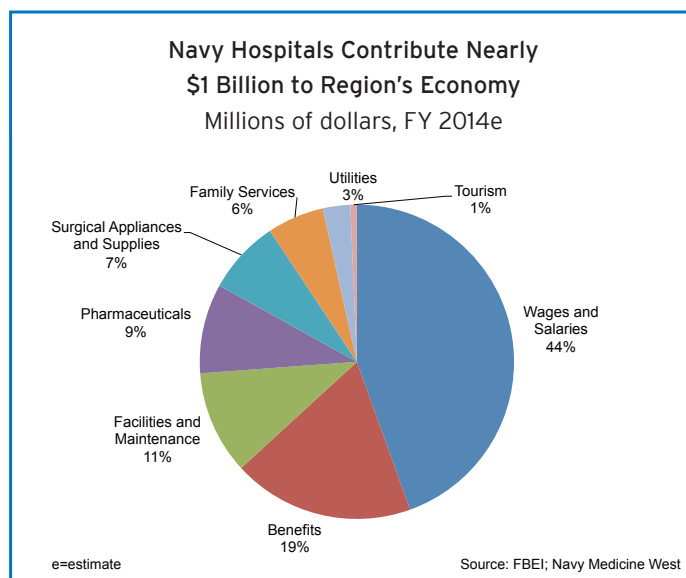


Compensation totals for NMCS D employees are concentrated in the City of San Diego, while NHCP wages and benefit payments are concentrated in North County San Diego. Together the two hospitals pay nearly \$625 million dollars in total compensation to their employees.

Facilities and Maintenance

Facilities and maintenance contracts of the two facilities include expenditures for medical/dental and non-medical equipment, personal services, custodial, maintenance, facilities, and rental services. The nearly \$105 million spent on facilities and maintenance represents 11% of the total budget for FY 2014. These dollars directly benefit businesses in the region. (See Exhibit 43.)

Exhibit 43



Pharmaceuticals

Pharmaceutical expenditures, equaling almost \$91 million dollars or nine percent of total expenditures, are an important part of the FY 2014 Budget. Given the large amount of prescriptions filled on an average day by NMCS D and NHCP, it is easy to see how this figure is so significant.

Surgical Appliances and Supplies

Hospitals require state of the art equipment and supplies to care for their patients. Nearly \$75 million will be allocated to ensure medical and diagnostic equipment and supplies are available to treat patients adequately.

Family Services

Housing, community services, youth programs, and child development programs as well as morale, welfare, and recreation programs are budgeted for under the Family Services category. Over \$57 million has been allocated for these purposes in FY 2014.

Utilities

To keep the lights on to operate the various pieces of equipment, Navy Medicine will spend over \$27 million, or three percent, of its budget on utilities.

Tourism

While a relatively small amount of the total economic impact on San Diego County, the two treatment facilities contribute approximately \$6.6 million in the form of tourism. This includes visitors coming into the area to visit loved ones stationed in the region and patients of the facilities. Visitors include people touring the facilities for various accreditations and inspections, medical conferences, ceremonies, as well as annual midshipmen training at the facilities for their summer “cruise.”

Economic Impact

Navy Medicine’s impact on San Diego County extends beyond the nearly \$1.0 billion injected through the eight principal channels described in the prior section. As these dollars flow through the economy, more jobs and income will be created, further enhancing the region’s output.

The Ripple Effect (Multiplier Impacts)

Both supply chain and consumer effects are important as the dollars directly supporting Navy Medicine circulate throughout the economy. Contracts for equipment, supplies, and services will require other firms to purchase materials and hire employees to satisfy the contracts and consumables of Navy Medicine. The employees of the hospitals will spend a portion of their wages and salaries within the region, as will the employees of firms involved throughout the supply chain. This spending will increase the demand for goods and services across many industries. Individual/family services and food services are two industries that will benefit, for example.

Navy Medicine’s Total Contribution to San Diego’s Economy in 2014

Combining the direct and all of the ancillary effects on the economy, Navy Medicine will be responsible for an estimated 15,000 jobs in San Diego County during fiscal year 2014 across many industries other than the expected medical sector. These include industries such as food services, engineering, personnel agencies, and scientific research. These jobs will generate \$960 million in total personal income in the region. Navy Medicine will be responsible for contributing a significant \$1.86 billion to San Diego County’s GRP. (See Exhibit 44.)

Exhibit 44

Navy Medicine Represents Valuable Asset for San Diego’s Economy	
FY 2014 e*	
Jobs	15,000
Income (\$ millions)	\$960
Gross Regional Product (\$ billions)	\$1.86

*Includes all multiplier effects; e= estimate

Source: FBEI

Beyond the Bottom Line--Value to Community

The two hospitals offer 24 graduate medical and dental programs, of which 97 percent of graduates become board certified. Training the future leaders of medicine ensures that the health care needs of the local beneficiaries will continue to be met by highly capable board-certified professionals. Physician training is not the only training occurring within the hospitals. The hospitals are affiliated with 25 civilian nursing schools, training more than 700 students per year in their 75 clinical rotations. The overall benefit of this strategic partnership is essentially twofold. It promotes the profession of nursing by increasing licensed member numbers and it serves as an excellent recruitment-retention tool. Navy Medicine efforts help the San Diego community to address the shortage of qualified registered nurses while contributing to the addition of mid-level income earners.

Research

NMCS D's unique quality culture and patient base attract not only multidisciplinary healthcare professionals, but research projects and dollars as well. The medical center maintains more than 300 active research protocols and more than 80 cooperative research agreements with non-military organizations. These partnerships include DoD research facilities as well as Cooperative Research and Development agreements (CRADAs) with top tier academic universities, medical research institutes, and foundations dedicated to advancing biomedical, biopharmaceutical, and translational scientific efforts. These partner organizations are expected to contribute approximately \$6.5 million dollars to the studies for fiscal year 2014. Another \$2.5 million in direct spending is allocated for supplies, equipment, and travel specifically for the purpose of accomplishing research related activities. While direct spending by research is significant, the impact on individuals directly affected by outcomes of the research performed is even greater qualitatively.

Research generates an atmosphere of scientific inquiry essential for the development and evaluation of new insights, technologies and medications. These benefit the care of active duty personnel, retired beneficiaries, their families, and others in the community. Research provides organized scientific structure for knowledge acquisition, as well as medical skill development. Research supports an academic environment enhancing medical professionalism. One shining example of the impact the research department has on the region is its work with Comprehensive Combat and Complex Casualty Care (C5).

Currently, San Diego is home to the only DoD site for student training on prosthetics. As one of the three DoD centers for amputee care, the medical center has provided state-of-the-art prosthetic technology and rehabilitation services to 134 amputees who have lost a total of 327 limbs.

Current research being performed on gait analysis of wounded warriors is redefining the quality of life for the amputees. No longer are amputees destined to become "disabled" and unable to work. The research performed with C5 has contributed to patients returning to Active Duty with some even returning to war zones and accomplishing the same missions prior to injury. The quality of the program not only enables more patients to return to full employment status, but the program attracts patients to come specifically to San Diego for treatment and to take up residency for follow-up care in the County.

In addition to research related to prosthetics and amputees, the medical center is involved with many other topics including studies researching traumatic brain injuries (TBI), post traumatic stress disorder (PTSD), radiological studies, and pain management studies to name a few. The outcomes of these studies has led the medical center to establish a broad spectrum of health and wellness programs to enhance physical and psychological recoveries, ranging from surf and other sports clinics in the local area to the use of acupuncture, music, art, yoga, equine, and other therapies in the treatment of chronic pain and post traumatic stress conditions.

NMCS D's Project C.A.R.E. (Comprehensive Aesthetic Restorative Effort) is in place to optimize the appearance, function, and self-esteem of those who have been traumatically injured through the provision of state-of-the-art surgical and non-surgical aesthetic therapies and integrated comprehensive behavioral health support services. To date, it has treated over 360 patients who have sustained some type of physical appearance disfigurement and/or functional impairment due to trauma and resulting scarring. In addition to psychological counseling, it employs the latest surgical skin graft and wound care techniques and the use of state-of-the-art laser technology to improve appearance and treat scars.

Collaborations and Partnerships

The naval hospitals interact with other parts of San Diego's medical community in many areas. NMCS D sends patients, for example, to other facilities in cases where it may lack the specialty equipment or ability to treat a rare or complex disease. NMCS D has agreements with local medical and nursing schools to provide training opportunities. NMCS D also works directly with the VA to treat specific patients.

Blood Bank collecting efforts of NMCS D typically accumulate 15,000 units per year, servicing all San Diego area commands including NHCP and the VA.

NMCS D and NHCP also partner with the County to provide disaster relief, serving as a major resource of assistance at critical times of need.

Beyond the Bottom Line--Value To the Nation

Both NMCS D and NHCP deploy medical personnel to Iraq, Kuwait, and Djibouti and aboard the USNS Mercy. On the battlefield, the training and skills acquired by the personnel of both facilities have contributed to the highest combat survival rates in recorded history. The nation's service members fighting for their country and their families at home anxiously awaiting their return can take some comfort in the survival rate statistics aided in part by the excellent medical training developed and honed at San Diego's military hospitals. Humanitarian mission accomplishments have met with similar success and have helped hundreds of thousands of people around the world as well as the reputation of the United States as a humanitarian leader.

Personnel from both hospitals deployed on the USNS Mercy to take part in the 2014 Pacific Partnership began as a humanitarian response to one of the world's most catastrophic natural disasters, the 2004 tsunami that devastated parts of Southeast Asia. Known at the time as Operation Unified Assistance, the U.S. government's swift response to the needs of the region resulted in extraordinary humanitarian aid.

Building on the success and goodwill this operation generated in the region, U.S. Pacific Fleet sent the hospital ship USNS Mercy back to the region for five months in 2006. A year later, U.S. Pacific Fleet prepared another humanitarian and civic assistance deployment, designed to strengthen multilateral relationships with regional friends, partners, and allies, and to maintain and enhance regional security and stability.

As in previous years, a primary objective of Pacific Partnership is to enable participants to learn how to interoperate. This year, the mission will be conducted in separate seaborne and airborne phases. Mission leadership includes officers from Australia, Japan, New Zealand, and the United States. This year, a special emphasis will be placed on knowledge transfer. Every medical, dental, veterinary, and engineering project will be conducted side-by-side with the host nations, ensuring that the mission's impact will continue long after its conclusion.

Pacific Partnership 2014 continues to build on the lessons learned in previous missions, improving the relationships between nations and organizations committed to a common goal: the stability and security of the Pacific region.

The humanitarian missions aboard the USNS Mercy, utilizing medical personnel from the two treatment facilities, spread goodwill throughout numerous countries in the Pacific, offering surgical, optometry, and dental services. Since the project began, 250,000 patients have received medical care.

Humanitarian research is also accomplished by the Naval Health Research Center (NHRC) that serves as a leading research and development laboratory for the DoD. NHRC manages and executes expeditionary operational medical research, development, and test and evaluation programs for the Naval Medical Research Command, Silver Spring, MD, Navy Medicine Support Command, Jacksonville, FL, and the Navy Bureau of Medicine and Surgery (BUMED) and is headquartered in Point Loma.

Conclusions

Navy Medicine provides significant aid to the economic well-being of the region by injecting nearly \$1.0 billion in direct spending and approximately \$1.86 billion in GRP throughout the County. The benefits of two medical treatment facilities and their affiliated branches in the County cannot be overstated. More than the bottom line, the hospitals not only aid the health of the San Diego economy, but the healing powers of the facilities provide health and welfare to the service men and women, past and present, who defend our country and their dependents. The facilities train future medical professionals as they pioneer research studies that improve medical best practices. The hospitals also benefit the nation as a whole in the many humanitarian missions they have been involved with, thereby enhancing the image and reputation of the United States both domestically and abroad.

Methodology

The methodology of the study entailed two major phases. First, data on the different aspects of the primary channels through which Navy Medicine spending affects San Diego County was collected, estimated, and forecasted for Fiscal Year 2014. Secondly, The IMPLAN® V3.0 modeling program was used to estimate the ripple impact on the economy in terms of employment, income, and GRP through supply channel and consumption effects. IMPLAN® is a well-known economic programming model widely used in economic impact analysis.

Estimates for spending for Fiscal Year 2014 were provided by Navy Medicine West and include the following categories: Contracts, Facilities and Maintenance, Pharmaceuticals, Surgical Appliances and Supplies, Family Services, and Utilities.

Benefits

The BAH and BAS figures were obtained from the DoD for different pay grades or Officers and Enlisted Active Duty personnel for fiscal year 2014. The implicit value of healthcare provided by the government was estimated at seven percent of total compensation based on average household budgets obtained from the Bureau of Labor Statistics. For civilians, a multiplier of .26 of wages was used to compute the entire benefit component, which includes healthcare, life insurance (FEGLI), and payments for the Thrift Savings Plan matching program that matches up to 5% of employee contributions.

Tourism

Tourism related dollars were divided into three categories:

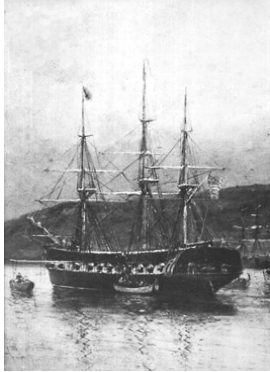
- Visitors for conferences, accreditations and site visits
- Midshipmen rotation of summer training “Summer Cruise”
- Visitors of employees and patients of the facilities

An estimated 150 people per quarter, or 600 annually, from outside the County were assumed to visit the region in addition to the individuals visiting employees based in San Diego. Each person was assumed to stay an average of three visitor days. For active duty and civilian DoD employees, FBEI assumed that each would attract four visitor days per year (e.g., two individuals staying for two days each or one spending four days) from outside the San Diego region.

FBEI then estimated daily spending on hotels, meals and entertainment. FBEI used an average daily hotel rate of \$130 based on estimates from Smith Travel Research for 2013. Food expenditures were estimated at \$85 per visitor day, while average entertainment spending was assumed at an average of \$40 per visitor day. Inflation factors were employed to derive the average and total estimates for 2014.

SECTION IV: SAN DIEGO'S MILITARY MAKING A GLOBAL IMPACT

The History of the Navy in San Diego



The U.S. Navy has held a presence in San Diego since the USS Cyane sailed into San Diego harbor in July 1846. Congressman William Kettner (1913-1921) played a critical role in bringing a naval base to San Diego by supporting a federal appropriation to dredge San Diego Bay to allow large ship access into the harbor. Harbor and base development continued with President Woodrow Wilson's 1917 authorization to acquire North Island for Army and Navy flight training. Construction began on Naval Air Station San Diego in 1918, which today is recognized as the "Birthplace of Naval Aviation." Chief of Naval Operations officially established the position of Commandant of Naval Base San Diego in 1919, welcoming Rear Admiral Roger Welles. Navy General Order Number 514 stated: "The naval base at San Diego, California is

hereby established and shall consist of the naval air station, the naval fuel depot, the naval hospital, the Marine barracks, radio stations and such other naval activities as are now or may be established in San Diego or in the immediate vicinity."

The Welles family arrived in San Diego on January 25, 1920 after a four-day cross-country train trip. Although it was a Sunday, Rear Admiral Welles and his wife, Harriet, were welcomed warmly by the City of San Diego and provided accommodations at the U.S. Grant Hotel.



The History of the Marine Corps in San Diego

Since 1911, the U.S. Marine Corps has maintained a continuous presence in San Diego. Early temporary encampments were established at North Island and later at what is now known as Balboa Park. In 1921, a permanent operating base was established at Dutch Flats and was commissioned officially as Marine Advanced Expeditionary Base San Diego. Much of the land was later converted to an air field (now Lindbergh Field), and the remainder became the current location of Marine Corps Recruit Depot San Diego.

Between the 1930s and the 1980s, additional Marine Corps bases were established throughout San Diego. Camp Holcomb, Green Farm Camp, and Jacques Farm Camp were later incorporated into Camp Elliot. Most of Camp Elliot is now the City of Tierrasanta. Camp Gillespie, a WWII parachute school named after a Marine Captain who participated in Kearny's expedition to San Diego in the Mexican War, was later renamed Gillespie Field. Camp Matthews was established and is now the site of the University of California San Diego. Camp Pendleton was dedicated by President Franklin D. Roosevelt in 1942 and would later house Marine Corps Air Station Camp Pendleton. Marine Corps Air Station Miramar was established in 1997 after fifty years of Navy ownership.

Major General Joseph Pendleton realized the strategic value of San Diego with its proximity to the Pacific Ocean. He anticipated the base would play an important role in the future of both the Marine Corps and the nation. During World War I (1917-18), San Diego Marines served as the American Expeditionary Force in France. By 1933, the Advance Base Force had evolved into the Fleet Marine Force. The Marine Corps, through theoretical studies and fleet exercises, had developed an amphibious doctrine that would be used by all U.S. and Allied forces in World War II. During the course of World War II, the U.S. Marines grew to six divisions and five aircraft wings with a peak strength of about 485,000, the majority of which were trained in San Diego County.

Again during the Korean War, the Marines of the First Provisional Marine Brigade sailed from San Diego to Pusan, Korea and played important roles in active combat operations. The First Marine Division and units of the 3d Marine Aircraft Wing served in Vietnam from 1962 until 1975. In 1983, Marines from San Diego served as part of a multi-national peacekeeping force in Lebanon. In the 1990-'91 Gulf War, I Marine Expeditionary Force (IMEF) was the Marine Component Commander and Marine forces from San Diego served with distinction during the conflict. Marines from IMEF also led the way in Operation Iraqi Freedom and Operation Enduring Freedom in Afghanistan.

Today, West Coast Marine Corps installations are home to more than 60,000 Marines, 5,500 Sailors, and 10,000 civilian employees, of which more than 57,000 Marines, 5,500 Sailors, and 9,000 civilian employees are in the state of California. These installations are an integral part of their respective communities and remain critical to overall combat readiness.

San Diego and the Military: Synergistic Partners

Each local installation supports a unique set of requirements. The specific combination of tenant commands, geography, proximity to other commands, and training opportunities provides an environment that cannot be duplicated anywhere in the world and supports the global effort of our national defense strategy. Because the land, air, and sea training ranges as shown in the diagram are within practical traveling distance from most home bases, our Sailors and Marines can train as they fight, while maximizing their time home with families and in our communities.



San Diego also benefits from the Navy's strategic rebalance to the Pacific with roughly 60% of the fleet's ships and seagoing assets stationed in this theater. San Diego is a Fleet Concentration Area (FCA) providing support services, coordination among operational units, and training synergy.

The Asia-Pacific focus includes or supports:

- > 40 nations
- > 30% of the world's GDP
- > More than 50% of the world's surface area
- > 60% of the world's population
- > 70% of the world's oil transits (through the Strait of Malacca)

Our top 4 trading partners:

- > Canada
- > Mexico
- > China
- > Japan

4 largest militaries:

- > China
- > India
- > U.S.
- > Russia



60% of the fleet to the Pacific

Navy and Marine Corps Installations

Navy and Marine Corps installations are responsible for base operating support functions and management of installation infrastructure and facilities, as well as range and training areas. Support provided is designed to facilitate tenant commands and activities in achieving and maintaining operational readiness. These installations serve as a launch platform for operational forces poised to deploy around the world in defense of our nation.

The following commands are located on the Navy and Marine Corps installations in the San Diego geographic area: Naval Base Coronado, Naval Base Point Loma, Naval Base San Diego, Marine Corps Base Camp Pendleton, Marine Corps Air Station Camp Pendleton, Marine Corps Air Station Miramar, and Marine Corps Recruit Depot San Diego.



**America's Navy & Marine Corps: "A Global Force for Good"–
Deploying from San Diego**

Navy Region Southwest



San Diego is home to the largest concentration of naval and marine corps facilities and personnel in the world, including the headquarters of CNRSW. CNRSW's relationship with various tenant commands operating on (or from) region installations is a landlord-tenant relationship, with the primary focus to support tenant commands. The CNRSW is often referred to as the "Navy Mayor" as the role and relationship with the community equates to that of a Mayor within his community.

Navy Region Southwest is comprised of ten installations in the six southwest states covering 1.4 million acres of land with buildings and various structures valued at \$29 billion dollars. 9,400 employees operate a \$1.3 billion dollar budget to support 325,000 sailors, dependents, civilians, and retirees.

The three CNRSW installations in San Diego are:

- > Naval Base Coronado
- > Naval Base Point Loma
- > Naval Base San Diego

Other installations within Navy Region Southwest include:

- > Naval Weapons Station Seal Beach
- > Naval Air Station Lemoore
- > Naval Base Ventura County
- > Naval Air Station Fallon
- > Naval Air Weapons Station China Lake
- > Naval Air Facility El Centro
- > Naval Support Activity Monterey

Note: total population counts listed throughout Section IV include Non-Appropriated Funds (NAF), other non-DoD tenants, etc., resulting in higher figures than presented in the direct employment counts in Exhibit 3.

Naval Base Coronado

Operating as a consortium of eight geographically separate locations, NBC encompasses 60,000 acres extending throughout San Diego, Riverside, and Los Angeles Counties, including 1,565 non-housing buildings and structures, 21 piers and wharfs, 3 airfields, more than 45 miles of shoreline, and a population of 27,000, making it one of the four largest naval bases in the Navy.

Installations located on Coronado Island include Naval Air Station North Island, Naval Amphibious Base Coronado, and the Silver Strand Training Complex. Also located near Coronado is the Navy Outlying Landing Field Imperial Beach. Other outlying locations supported by NBC in the San Diego and Los Angeles Counties include Mountain Warfare Training Center Camp Michael Monsoor, Camp Morena, Remote Training Site Warner Springs, and Navy Auxiliary Landing Field San Clemente Island.



Naval Base Coronado (NBC) has a long history of serving as a home base for Naval Aviators, Navy SEALs, Fleet Sailors and their families, and is home to eight major air, surface, special warfare and training commands, two aircraft carriers, 16 helicopter squadrons, two fixed wing squadrons, and more than 120 other military units and commands. Airfields, piers, air, surface and subsurface training ranges, and support facilities provide critical operational and training functions for West Coast Navy and Marine Corps operating forces. These diverse and large numbers of operational and training resources provide the support necessary to achieve and maintain combat readiness while contributing significantly to national security deterrence in peace time.

Naval Base Point Loma

Point Loma peninsula is home to Naval Base Point Loma (NBPL), Cabrillo National Monument, Veterans Administration's Fort Rosecrans National Cemetery, Point Loma Nazarene University, U.S. Coast Guard, and the Point Loma Wastewater Treatment Plant. Together they help preserve the habitat and cultural resources of this historical location which includes three endangered species, two pre-historic aboriginal sites, Spanish heritage sites, WWI and WWII military forts, bunkers, and two National Register eligible historic districts.

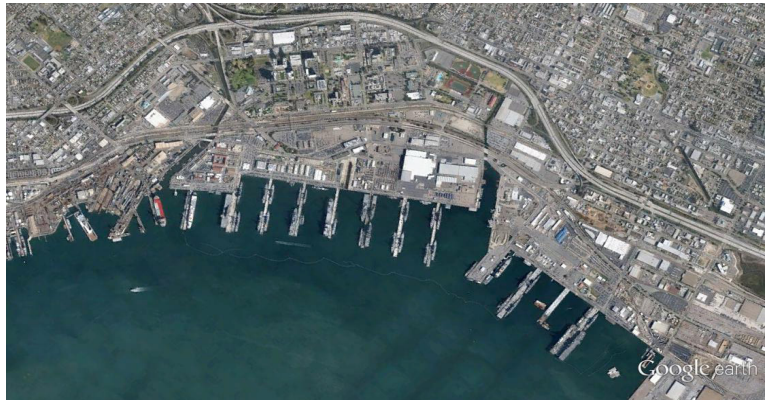


Spread beyond Point Loma and throughout San Diego County, Naval Base Point Loma maintains six complexes and 41 special areas, comprising 1,869 acres of land to include Old Town Complex, Taylor Street Complex, Naval Mine Antisubmarine Warfare Complex, Point Loma Topside Complex, Commander Third Fleet Complex, Point Loma Main Base Complex, Mount Soledad, Fleet Intelligence Training Center Complex, and the Naval Consolidated Brig Miramar. With over 71 tenant commands, NBPL supports a variety of fleet, flag headquarters, training and Research, Development, Testing and Evaluation (RDT&E) commands. NBPL is considered the technical hub of San Diego's naval activity, hosting some of the nation's premier research centers for communications and weapons technology, including Command, Control, Communications, Computers, Intelligence, Surveillance and Reconnaissance (C4ISR) at SPAWAR Systems Center Pacific. Additionally, NBPL is the primary home of West Coast fast attack submarines, with all five of Squadron Eleven's SSN submarines, as well as their entire shore support portfolio of logistics, maintenance, and ordnance handling which includes a floating drydock (ARCO ARMD 5) for submarine depot level repairs. NBPL also hosts the largest Fuel Supply Center and the only Magnetic Silencing Facility in the Pacific.

Naval Base San Diego

As the Navy's premier Pacific Fleet surface force installation, and one of the four largest bases in the U.S. Navy, Naval Base San Diego (NBSD) provides comprehensive fleet support for 57 home ported ships and over 180 tenant commands.

NBSD is comprised of the main Naval Base on the San Diego Bay, as well as the



Broadway Complex which serves as the headquarters for Navy Region Southwest; the Balboa complex which serves as the home for the Bob Wilson Naval Hospital and Navy Medicine West, and the Admiral Baker Golf Course and Recreation Center which serves the recreational needs of Sailors, family members, and retirees throughout the region. The base is also responsible for the Naval Facilities Engineering Command Southwest headquarters located in downtown San Diego.

NBSD occupies 1,600 acres of land and 326 acres of San Diego Bay, with 12 piers offering 56,616 feet of navigable berthing. The base also oversees 18 housing areas, including the large Murphy Canyon housing complex which provides more than 4,900 homes for military families.

The main NBSD site is divided into two distinct areas: the maintenance and repair area along the shoreline (also known as the wet side) and the community facilities complex east of Harbor Drive (also known as the dry side). The total daily population of the base consists of approximately 35,000 military, civilian, contractors, and support staff.

In addition to various naval commands, NBSD is also home to partner agencies such as the U.S. Coast Guard and U.S. Army.

NBSD is home to the largest number of ships on the West Coast, as well as the newest class of ships (LSC) in the fleet. It provides services including housing, family support, security, public works, environmental, safety, supply, and administrative facilities for tenant commands.

Major Commands Running the Navy from San Diego Commander, U.S. Third Fleet

Third Fleet leads naval forces in the eastern Pacific from the west coast of North America to the International Date Line, commanding fleet operations and providing maritime homeland defense. Sea lines of communication within the Third Fleet Area of Responsibility (AOR) are critically important to the economic health of the United States and nations throughout the Pacific, making Third Fleet a key player in our nation's defense.



Our sea-going force includes four carrier strike groups, each consisting of a combination of cruisers and destroyers. Third Fleet also has more than 30 submarines and 11 supply ships to support the strike groups. Third Fleet's air forces comprise more than 400 Navy aircraft, including the F/A-18 Super Hornet, E-2C Hawkeye, AV-8B Harrier, AH-1 Super Cobra, SH-60 and MH-60 Seahawk, MH-53E Sea Dragon, EA-6B Prowler, EA-18G Growler, P-8A Poseidon and P-3C Orion.

Third Fleet trains, certifies, and deploys combat ready naval forces prepared to face a full range of missions – from humanitarian assistance, disaster relief, and peacekeeping operations, to major regional conflicts and contingencies, and ballistic missile defense – around the globe. In fulfilling this role, Third Fleet is able to provide realistic, relevant training necessary for an effective global navy due to the incomparable training ranges available within our AOR. Third Fleet conducts numerous multi-lateral exercises, including the world’s largest maritime exercise, Rim of the Pacific (RIMPAC), on a bi-annual basis.

Through joint, interagency and international relationships, Third Fleet strengthens our ability to respond to crises and protect the collective maritime interests of the U.S. and its allies and partners. Third Fleet enhances regional security through Theater Security Cooperation (TSC) – interacting regularly with international forces. Additionally, Third Fleet’s mission includes Defense Support of Civil Authorities (DSCA), supporting state and local authorities in the event of natural or man-made disasters, while routinely training with civilian agencies to build relationships to respond rapidly and collaboratively should the need arise.

Commander, Naval Air Forces

Aviation formally became a part of the Pacific Fleet in October 1919 when Air Detachment, Pacific Fleet was established in San Diego on what was known as Naval Air Station San Diego (North Island), located on North Coronado Island. Subsequently, the creation of a single all-encompassing Pacific Fleet aviation command was a direct outgrowth of the rapid expansion of the Navy and Naval Air Forces during World War II. On July 29, 1942, the Navy established Commander, U.S. Naval Air Forces, Pacific Fleet – COMNAVAIRPAC, resulting in a more efficient command structure and economical use of personnel and material. In 1949, COMNAVAIRPAC moved its headquarters from Pearl Harbor, Hawaii to Naval Air Station North Island. Today, Commander, Naval Air Forces is the headquarters command for all operational naval aviation assets; it is responsible for manning, training, and equipping the Navy’s aircraft carriers, aircraft, and sailors who serve in naval aviation, which includes 10 aircraft carriers, 9 carrier air wings, and 12 type wings and 168 fleet, reserve, and training squadrons, with more than 3,600 aircraft and 100,000 personnel.

As the Navy’s force provider for aviation assets, Commander, Naval Air Forces ensures that all squadrons, wings, and aircraft carriers are ready and able to deploy in support of U.S. national security objectives. The Naval Air Forces staff monitors and provides guidance regarding the maintenance of aircraft and aircraft carriers to ensure they are available through their entire lifespan and beyond. Additionally, Naval Air Forces oversees the



training and development of our Naval Aviators, maintainers, and aircrews that operate around the world. Naval aviation remains rooted in the concepts of sea control and the projection of power, influence, and deterrence from the sea. The aircraft carrier and its embarked air wing have been key naval and joint enablers since the Battle of Midway in 1942 and will continue to be so for decades to come.



Commander, Naval Surface Force, U.S. Pacific Fleet

Commander, Naval Surface Force, U.S. Pacific Fleet (COMNAVSURFPAC), established in the mid -1970s, oversees the “Man, Train, and Equip” efforts of the Surface Navy and is also designated as Commander, Naval Surface Forces (COMNAVSURFOR), which provides executive oversight and policy for the entire Surface Navy. The command is located onboard Naval Base Coronado’s Naval Amphibious Base.



The surface force is comprised of surface ships and support and training commands, and provides operational commanders with well-trained, highly effective, and technologically superior surface ships and Sailors.

- > 3,611 Officers, 28,067 sailors and 153 civilians.
- > 88 of 160 surface ships are based in the Pacific.
- > Nearly 50% are underway at any given time either preparing for or executing a maritime deployment.

The force consists of amphibious ships; guided missile cruisers and destroyers, including some with ballistic missile defense capabilities; guided missile frigates; mine countermeasure ships; and the Navy’s newest ship class, the littoral combat ship (LCS), a high speed, shallow draft, multi-mission ship designed to operate near coastlines. The force also includes deployable tactical



air control squadrons, fleet surgical teams, and amphibious craft, as well as an enormous training organization based in four geographically dispersed fleet concentration areas. Surface Force ships are deployed in support of Commander, US Third Fleet; Commander, US Fourth Fleet; Commander, US Fifth Fleet; and Commander, US Seventh Fleet.

Naval Special Warfare Command

Naval Special Warfare Command (NAVSPECWARCOM) is the Navy's special operations force headquarters and the maritime component to United States Special Operations Command (USSOCOM). The mission of NAVSPECWARCOM is to man, train, equip, deploy, and sustain NSW forces for operations and activities abroad, in support of Combatant Commanders and U.S. national security interests.



Naval Special Warfare (NSW) traces its roots back to when America had officially entered World War II and aimed to liberate Allied nations – beginning with the coasts. In 1942, the Navy created Underwater Demolition Teams (UDT) and the frogman was born. In 1962, President John F. Kennedy, who realized the value in unconventional warfare, passed a directive that transformed the UDTs of the past into the first Navy SEAL Teams. Though originally developed for naval counter-guerilla warfare, the Teams' directive quickly grew to include “a specialized capability for sabotage, demolition, and other clandestine activities conducted in and from restricted waters, rivers, and canals, specifically to destroy enemy shipping, harbor facilities, bridges, railway lines, and other installations in maritime areas and riverine environments.” Along with the Congressionally-mandated growth of Special Operations Forces since 9/11, there is a need to expand and increase training capabilities and capacity. NSW is executing a significant Military Construction (MILCON) investment strategy to improve and expand operational training ranges and logistical and administrative support facilities across the force, particularly at its major centers of gravity in San Diego; Little Creek, Virginia; Stennis, Mississippi; and Hawaii.

Major West Coast Component Commands include:

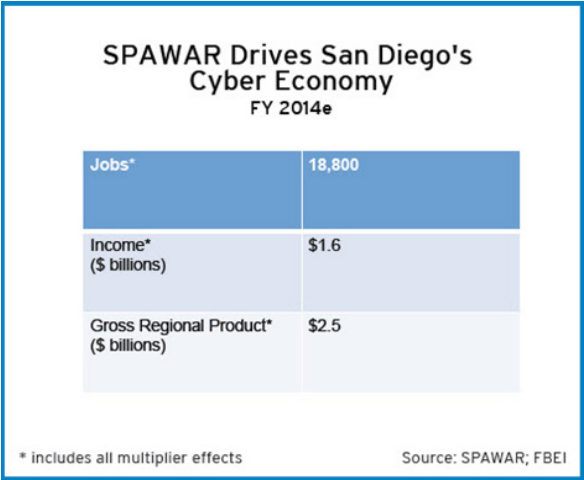
- > Located across San Diego, Naval Special Warfare Group ONE, San Diego (SEAL Teams, Logistical Support, Training Detachments and Mobile Communication Teams)
- > Naval Special Warfare Group ELEVEN, San Diego (Reserve Force)
- > Naval Special Warfare Center, San Diego (Basic and Advanced Training)

Globaly,NSW is organized around eight SEAL Teams, three Special Boat Teams, one Seal Delivery Vehicle Team, and supporting commands, including five overseas units. NSW is comprised of approximately 9,904 total personnel, including more than 2,777 active-duty SEALs and 727 Special Warfare Combatant-craft Crewmen (SWCC), nearly 770 reserve personnel, 4,434 support personnel, 1,163 civilians, and 263 contractors. NSW constitutes a small investment but provides tremendous strategic military value.



Space and Naval Warfare Systems Command (SPAWAR)

SPAWAR is one of San Diego County’s most important assets. A special report, commissioned by SDMAC, was published in April 2014 which analyzed SPAWAR’s total economic impact on the reagon. SPAWAR directly employs nearly half of all the cyber security jobs in San Diego and its presence in San Diego is a huge contributing factor for many cyber companies to remain located in San Diego. Its expansive research facilities and cutting edge laboratories located in Point Loma are a unique national asset.



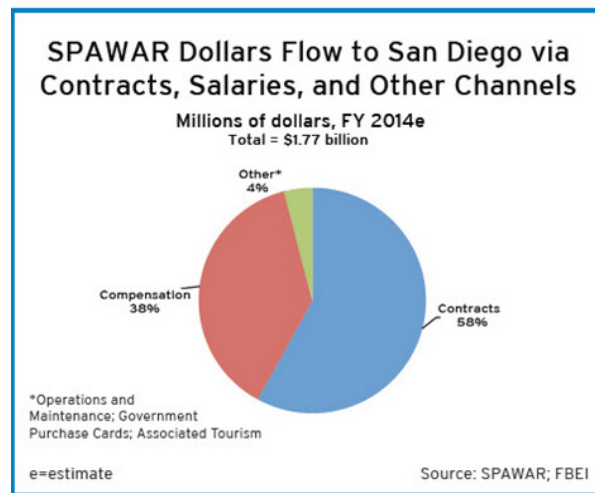
SPAWAR (pronounced spay-wôr) is responsible for the information and communications networks connecting the Navy’s sea, land, air, and cyber defenses. Its focus is on innovation, rapid prototyping, and swift deployment of new technologies into the Fleet. The capabilities SPAWAR provides in cyberspace enable the Navy to dominate the information environment in any battle space. San Diego plays a pivotal role as it is home to SPAWAR’s headquarters and principal research and science laboratories. One-half of all SPAWAR’s nearly 10,000 employees live in San Diego.

SPAWAR represents a large source of external funds pumped into San Diego County each year. Its impact also extends beyond the more readily measurable effects on the economy because of its roles in technology transfer and strengthening San Diego’s educational system and workforce.

As the Navy’s Information Dominance systems command and information technology technical lead, SPAWAR conducts research and development for Navy cyberspace capabilities and provides the hardware, software, and firmware to connect our manned and unmanned systems at sea, on land, and in the air. SPAWAR is one of six major Department of Navy acquisition commands. SPAWAR’s total budget in FY13 was \$7.3 billion dollars, with \$6.6 billion dollars (91%) going to contracts with private industry.

SPAWAR distributed these funds worldwide to support its mission, but by far the area receiving the largest percentage was the San Diego region at around \$1.8 billion dollars. Of that, over \$270 million dollars of SPAWAR contract obligations went to small businesses in San Diego. As a major acquisition command, SPAWAR's presence in San Diego benefits from the large number of advanced technology and defense industry companies that bring the additional expertise necessary to develop and field cutting-edge Information Dominance technologies for the Navy.

SPAWAR's information technology and cyber security products and services transform ships, aircraft, and vehicles from individual platforms into integrated battle forces, delivering and enhancing information dominance and awareness among Navy, Marine, joint forces, federal agencies, and international allies. SPAWAR supports the full product lifecycle from the initial research and development, to acquisition and deployment, to operations and logistics support. SPAWAR develops, delivers, and sustains communications and information capabilities for warfighters, keeping them connected anytime and anywhere.



With a space support activity, two system centers, and three Program Executive Offices (PEOs), SPAWAR provides the hardware and software needed to execute Navy missions. SPAWAR consists of 9,751 active duty military and civil service professionals located around the world, keeping SPAWAR close to the Fleet and at the forefront of research, engineering, and acquisition. Half of all SPAWAR employees (4,919: 288 military, 4,631 civilian) work in San Diego with \$682 million dollars going directly toward salaries and total benefits in the San Diego economy.

SPAWAR Headquarters and SPAWAR Systems Center Pacific (SSC Pacific) are at the forefront of research, engineering, acquisition, and support services providing vital decision superiority to our forces. SSC Pacific is a driver for innovation and in the past 20 years has issued 1,325 documented concepts or disclosures and filed for 900 patents. A total of 800 patents have been granted.

SDMAC's economic impact study of SPAWAR concluded:

- SPAWAR will pump over \$1.77 billion dollars into the San Diego economy in FY2014. Funds will flow through five primary channels: SPAWAR employment and compensation, contracts to private firms, spending on operations and maintenance, smaller purchases made through government purchase cards, and associated tourism.
- SPAWAR will be responsible for nearly 19,000 jobs in San Diego County in FY2014 and \$1.6 billion dollars in total personal income (accounting for ripple and multiplier effects).
- SPAWAR will generate a total of \$2.5 billion of output or GRP in FY2014. This amounts to nearly \$800 for each San Diego County resident or approximately \$2,200 for every household.
- SPAWAR directly employs 4,919 individuals in San Diego County, which puts it on a scale comparable to the twelve leading private sector employers in the region. SPAWAR employs a highly skilled, experienced, and educated workforce, including over 160 PhDs and 1,200 Masters Degrees. With an average civilian salary of \$105,000, SPAWAR employees are compensated on par with their private sector counterparts possessing advanced skill sets.

SPAWAR is highly engaged with local colleges and universities. In addition to research and academic partnerships, SPAWAR offers a wide array of student employment programs including the Student Temporary Employment Program, the Student Career Employment Program, and San Diego State University's Research Foundation program.

SPAWAR is also dedicated to helping nurture the next generation of science, technology, engineering, and mathematics (STEM) professionals and hosts a wide variety of K-12 education outreach events including: classroom demonstrations and presentations, international robotics competitions, community events, science fairs and festivals, internships, and mentorship activities.

San Diego and SPAWAR represent unique synergies. While SPAWAR brings major economic, technological, and educational benefits to the region, San Diego provides SPAWAR with a vital network of defense contractors, research firms, talent, proximity to other major Navy installations, and essential test facilities.

Naval logistics has been a key component of the fabric of the San Diego waterfront for almost a century. In the early 1900s, Pacific Fleet ships routinely anchored in the harbor at the foot of Broadway making it a natural site for a supply depot. In 1922, the Naval Supply Depot, San Diego was formally established after a small pier was constructed and the first materials were moved into the Depot's warehouse in February 1923.

For the next 70 years, larger capacity piers, additions to the supply depot, and a deeper reliance on San Diego as a Navy fleet concentration region drove greater logistics needs and the establishment of a regional Naval Supply presence with the establishment of Naval Supply Center (NSC) San Diego.

The original assumptions and concept of operation of the lead Fleet and Industrial Supply Center (FISC) were dramatically altered. Substantial changes in the scale of operations necessitated the structure of a stand-alone, flag-level Echelon III command and the re-establishment of FISC San Diego as an Echelon IV command. By direction of the CNO, in August, 2006, Commander Fleet and Industrial Supply Center (COMFISC) and FISC San Diego were divided and declared separate commands. COMFISC'S mission became focused on global logistics and contracting issues and driving best practices across the seven FISCs, thereby allowing FISC San Diego to focus on local logistics issues and to provide optimal supply support to Commander, Navy Region Southwest.

As part of the “One NAVSUP... One Enterprise” branding initiative, on July 1, 2011 COMFISCs was renamed NAVSUP Global Logistics Support (NAVSUP GLS). The seven FISCs were renamed NAVSUP Fleet Logistics Centers (FLC). The new naming convention supports NAVSUP'S Global Logistics Support Network construct in which NAVSUP GLS executes its mission as part of a global network along with its naval partners.

NAVSUP GLS also serves as Assistant Commander (ACOM) for Navy Expeditionary Combat Enterprise (NECE) Support, ensuring NAVSUP resources fully support NECE logistics requirements to enhance their war fighting capabilities. Additionally, NAVSUP GLS serves as the lead for NAVSUP's operational alignment initiative to support the fleet more effectively and integrate and align NAVSUP's planning, training, and exercise engagement efforts in support of operational requirements. In 2012, NAVSUP GLS integrated the ammunition supply chain management, transportation, and operations planning of the former command known as “NAVSUP Logistics Operations Center.” The integration further allows NAVSUP GLS to present a single face to fleet and shore customers and adds more agility to the command's global reach.

Today, NAVSUP GLS is comprised of more than 6,600 military and civilian logistics professionals operating from 110 locations worldwide, providing an extensive array of integrated global logistics and contracting services to Navy, Marine Corps, joint operational units, and allied forces across all warfare enterprises. As NAVSUP's operational “face to the fleet,” NAVSUP GLS provides headquarters oversight for an

Naval Supply Systems Command (NAVSUP) Fleet Logistics Center San Diego

enhanced global network of Fleet Logistics Centers that provide Material Management Services, Warehousing Services, Integrated Logistics Support, Contracting Services, Global Logistics Services, Regional Transportation Services, Fuels, Hazardous Material Management Services, Transportation & Distribution Coordination, Global Logistics Planning & Coordination, Ammunition Supply Chain Management, Household Goods Services, and Postal Services in alignment with NAVSUP and the Chief of Naval Operations Sailing Directions

Naval Supply Systems Command (NAVSUP) Fleet Logistics Center San Diego

NAVSUP FLC San Diego provides logistics, business and support services to fleet, shore and industrial commands of the Navy, Coast Guard, and Military Sealift Command, and other joint and allied forces. NAVSUP FLC San Diego delivers combat capability through logistics by teaming with regional partners and customers to provide supply chain management, procurement, contracting and transportation services, technical and customer support, defense fuel products, and worldwide movement of personal property.



Annually, NAVSUP FLC San Diego administers about 104 Task Order contracts worth over \$23 million dollars; procures more than \$50 million dollars in materials for NAVFAC SW facilities maintenance; and provides support to more than 300 Fleet Operational activities of Commander, Third Fleet and tenant activities of Commander, Naval Region Southwest. NAVSUP FLC San Diego has 7,000 average annual contract

actions valued at over \$1 billion dollars. For household goods, FLC assists more than 17,000 walk-in customers and processes 3,500 personally procured moves. FLC handles more than 2.9 million pieces of postal mail. The command also handles hazardous materials and provides Integrated Logistical Support for ships and missile systems.

The Defense Fuel Support Point (DFSP) Point Loma is operated by Navy's FLC San Diego and through 1,500 fueling evolutions a year delivers an annual throughput of 208 million gallons of jet fuel (JP-5) and diesel (DFM) to customers. Construction of a new replacement storage facility started in March 2009 and will be completed later this year. This will replace the aging existing fuel facility storage capacity for jet fuel and diesel with eight 5,250,000 gallon above ground fuel storage tanks (total capacity 42,000,000 gallons).

Naval Medicine in San Diego

Both Naval Medical Center San Diego and Naval Hospital Camp Pendleton are large facilities that have a significant impact on the County. The hospitals not only aid the health of the San Diego economy, but the healing capabilities of the facilities provide health and welfare to the service men and women, past and present, who defend our country and their dependents. The facilities train future medical professionals and pioneer research studies that improve medical best practices. The hospitals also benefit the nation as a whole through their many humanitarian missions that enhance the image and reputation of the United States both domestically and abroad. A more in-depth analysis of the hospitals' impact on the region can be found in Section III of this report.

Navy Region Southwest Reserve Component Command

Navy Region Southwest Reserve Component Command (NAVREG SW RCC), a tenant command at the Broadway Complex in downtown San Diego, sets the standard for the Navy Reserve by maintaining assigned Reserve personnel and equipment in the highest state of readiness and availability to provide strategic depth and deliver operational capability to the Navy and Marine Corps Team and Joint Forces. This is accomplished through the effective management of personnel and resources in order to train, equip, and otherwise prepare the assigned Navy Reserve units, personnel, and their families for their mobilization requirements. Through oversight of 19 Navy Operational Support Centers located across the Southwest Region (CA, AZ, NM, UT, CO, NV), Hawaii, and Guam, NAVREG SW RCC supports and serves over 11,000 Selected Reservists (SELRES). Two Navy Operational Support Centers (NOSC) are located in San Diego County.

On average over 600 mobilized Sailors from throughout the Region provide operational support for Overseas Contingency Operations and other world-wide operations and exercises.

Additionally, NAVREG SW RCC's Medical Hold Unit provides primary care support, medical case management, and administrative support to wounded, ill, or injured (WII) sailors of the Navy Reserve who were mobilized in support of Overseas Contingency Operations or served on other active duty greater than 30 days in length.

Marine Corps Installations West

Marine Corps Installations West (MCI West) was established as a Regional Headquarters in 2006 with Marine Corp Base Camp Pendleton, Marine Corps Logistics Base Barstow, and Marine Corps Air Stations Miramar, Yuma, and Camp Pendleton as subordinate installations. Three other California bases, Marine Corps Recruit Depot, the Marine Corps Combined Arms Training Center Twenty-nine Palms, and the Marine Corps Mountain Warfare Training Center at Bridgeport, are part of the service level training establishment, and they are assigned to the Marine Corps Training and Education Command and supported by MCI West.

These eight bases and stations make up the Marine Corps' Southwestern Range and Training Complex. This complex now contains more than 85% of the DoD Special Use Airspace and 67% of the USMC Live Fire ranges. In addition to the use of training areas and ranges at these installations, public and private lands are occasionally used to mitigate training land shortfalls or to meet specific training requirements. This allows Marine forces to conduct the full spectrum of operational missions, thereby maximizing mobility, communications, and the employment of a variety of advanced systems necessary for conducting expeditionary operations.

As our nation's national strategy rebalances to the Pacific AOR, these bases and stations remain vital in providing unique training opportunities to prepare elements of various Marine Corps units to carry out their assigned expeditionary and joint war fighting missions. The three-dimensional training space that geographically connects Marine Corps bases, ranges, stations, and other operating areas - along with being located near our principal Pacific naval bases - makes these facilities a vital national asset which would be very difficult to replace.

MCI West currently has more than 500 construction contracts valued at over \$1.8 billion dollars in progress. This program is a major construction and maintenance effort that makes a significant economic impact to the communities in which we serve and reside. This program has met or exceeded the goals for small business contracting. The contracts include major capital improvement projects, significant repair or renovation projects, local maintenance, energy investment projects, and facilities services (i.e., janitorial, grounds maintenance, and other similar service contracts), nearly all of which are with local businesses.

A major highlight of these capital improvement projects involves increased infrastructure development for the Joint Strike Fighter in Yuma, AZ; support of MV-22 Osprey fielding at MCAS Miramar and MCAS Camp Pendleton; major overhaul of water, wastewater, electrical, and communications systems at Camp Pendleton; and recapitalization of barracks facilities for single Marines living on base.

Changes on the Horizon

By the end of fiscal year 2016, the Marine Corps active duty strength will be reduced from around 202,000 to about 182,000. Estimates indicate that the Marine Corps population at California and Arizona Marine Corps installations will fall by approximately 6,000, with the reduction of approximately 4,000 Marines at San Diego County installations.

One of several major Marine Corps capability advancements includes the introduction of a tilt-rotor aircraft, the MV-22 Osprey, which replaced the Vietnam-era helicopter, the CH-46 Sea Knight. MCAS Miramar has completed the transition. In the near future, the last CH-46's at MCAS Camp Pendleton will also be replaced with the MV-22. Likewise, the Marine Corps will eventually replace the legacy AV-8B Harrier and the F/A-18 Hornet with the F-35B Strike Fighter. The integration at MCAS Yuma has already begun with the introduction of Marine Fighter Attack Squadron 121, the world's first operational Joint Strike Fighter squadron. Miramar will soon follow suit in acquiring the infrastructure to house the world's newest weaponry. These innovative war-fighting platforms require sophisticated logistics and greater technological support services that could stimulate and support San Diego's economic growth.



Marine Corps Base Camp Pendleton

Since its establishment in 1942, Marine Corps Base (MCB) Camp Pendleton has occupied 125,000 acres of largely undeveloped land with more than 17 miles of coastline. Located in the northwestern corner of San Diego County, it is the Marine Corps' only West Coast expeditionary/amphibious training center. Camp Pendleton is home to more than ten operational tenant commands including:

- > I Marine Expeditionary Force (I MEF)
- > 1st Marine Division (1stMARDIV)
- > 1st Marine Logistics Group (1st MLG)
- > The School of Infantry (West)
- > Assault Amphibious Schools Battalion
- > Marine Corps Special Operations Command (West)
- > Marine Corps Tactical Systems Support Activity
- > Assault Craft Unit Five (USN)
- > Field Medical Training Battalion (USN)
- > Naval Hospital Camp Pendleton (USN)
- > Weapons Field Training Battalion (MCRD San Diego)

With more than 125,000 acres of varied terrain and 17.1 miles of shoreline, including terrain elevations rising to more than 3,000 feet, Camp Pendleton is one of DoD's busiest training installations. The base's varied topography, combined with its amphibious training areas, inland training ranges and airspace, offers maximum flexibility for Marine Air Ground Task Forces and other service units that require a realistic combat training environment. Each year more than 40,000 active-duty and 26,000 reserve military personnel from all services use Camp Pendleton's many ranges and training facilities to sharpen their combat skills. Camp Pendleton's proximity to a variety of military units, including air elements and naval forces, allows for frequent and sustained training of this nature. The mild weather of the region provides an ideal training environment for amphibious, ground, aviation, and joint operations.

In addition to being the home of I MEF, Marine Corps Base Camp Pendleton is the Corps' premier amphibious training base. Within its 200 square miles are:

- > 95 live fire ranges
- > 38 training areas
- > 5 training beaches
- > 3 sea space areas
- > 9 impact areas
- > 13 urban training facilities
- > 4 separate blocks of restricted airspace

Camp Pendleton offers state-of-the-art facilities and technologies such as:

- > Infantry Immersion Trainer
- > Improvised Explosive Device (IED) Training Lanes
- > Combat Convoy Simulator
- > Tactical Video Capture System
- > Live-Fire Convoy Course
- > Combined Arms Raid Facility
- > Close Air Support urban target sites
- > Combat towns
- > Industrial urban training facility
- > Numerous smaller urban training sites

MCB Camp Pendleton's coastline provides one of the last stretches of undeveloped land in southern California, which is used to support expeditionary amphibious training operations for the Marine Corps and Navy team in the execution of large scale exercises, as well as Joint Force exercises to include Joint Logistics Over-The-Shore (JLOTS) exercises.



MCB Camp Pendleton continues to make training a top priority, with military construction enhancements focused on sea-to-land maneuver. In addition to all the capital investment made in the past five years, Camp Pendleton continues to plan for the restoration of formerly leased land to training areas to mitigate a shortage in available training land acreage.

Camp Pendleton has an estimated daily population of approximately 70,000. This estimate includes the 40,000 service members assigned to units on base, the 4,000 civilian employees employed at various commands, military family members residing in base housing, and daily visitors, such as construction and service contractors, product vendors and delivery personnel, military family members who reside off-base, military retirees and their family members, as well as other guests and visitors. Camp Pendleton has more than eighteen barracks areas where single Marines live and work and over 7,000 family housing units; the base offers multiple retail and food services, as well as indoor and outdoor recreations. Camp Pendleton also operates its own water treatment facilities, landfill, and fire and police services.

As part of a regional construction program, Camp Pendleton has more than 200 construction projects under way totaling over \$750 million dollars. These military construction projects include new facilities and infrastructure improvements, which include roads, modernized utilities, renewable energy, operations and training ranges, administrative, maintenance, warehousing, galley, retail, and troop housing. In December 2013 the new 500,000 square foot Naval Hospital, located near the main gate and commissary, was officially opened and began serving more than 150,000 Marines, family members, and retirees.



In order to comply with environmental laws and regulations, Camp Pendleton maintains an award-winning, extensive environmental management and regulatory compliance program. The base is built on a wide swath of coastal land that supports an estuary at the mouth of the Santa Margarita River, the last free-running river in California, and extensive salt marsh habitat. Outlying land within the base is made up of floodplain, oak woodlands, coastal dunes and bluffs, coastal sage scrub, chaparral, and several types of wetlands, including ephemeral wetlands such as vernal pools. Pro-active management and ecological research takes place in undeveloped areas of the base, which contain numerous types of endangered habitat and animals. Land within the base still includes breeding habitat for birds such as the Western Snowy Plover and California Gnatcatcher. The coastal bluffs have many of the few existing specimens of the Pendleton button-celery, which was named for the base. Rare mammals on the base include the Pacific pocket mouse and Stephens' kangaroo rat. The base's aggressive management program enables these endangered species to coexist with realistic Marine Corps combat training.



Marine Corps Air Station Camp Pendleton

Marine Corps Air Station (MCAS) Camp Pendleton is a major helicopter base for Marine Aircraft Group (MAG) 39, a subordinate unit of the 3rd Marine Aircraft Wing (MAW) based at MCAS Miramar. MCAS Camp Pendleton houses eight active squadrons, one maintenance and logistics squadron, one support squadron,

and one headquarters squadron under MAG-39. Also located aboard the Air Station is the Air Station headquarters squadron, the Center for Naval Aviation Technical Training (CANTT) Marine Detachment, the Consolidated Range Control Facility, Marine Aviation Training Systems Site, and Fleet Readiness Center Southwest. Other services provided at the Air Station include a Marine Corps Exchange/ Seven-day Store, a Marine Corps Community Services Semper Fit gym, a multi-purpose physical training field with a Marine Corps Martial Arts Program pit, a Combat Fitness Test field, all of which opened within the last year, and a barber shop which was recently relocated next to the new Marine Corps Exchange.

Built in 1942 as part of the original construction of MCB Camp Pendleton, the Air Station is nestled within the southern end of the base and located approximately six miles east of the Pacific Ocean. Averaging over 130,000 operations each year, MCAS Camp Pendleton is one of the Marine Corps' busiest single runway facilities. The runway is approximately 6,005 feet long and 200 feet wide with a hot fuel pit at one end and an area at the other end for loading ordnance on combat aircraft with a new arm/de-arm area situated next to it.

The Air Station hosts the only training squadron for H-1 helicopters and the last active duty CH-46E squadrons in the Marine Corps. Within its 458 acres, MCAS Camp Pendleton conducts training, testing, and maintenance, as well as environmental and facility maintenance functions. Squadrons at MCAS Camp Pendleton benefit from its proximity to the I Marine Expeditionary Force units it supports and its proximity to the training ranges within MCB Camp Pendleton.



Over the past few years, MCAS Camp Pendleton has introduced the UH-1Y and the AH-1Z, upgraded versions of the UH-1N Huey and AH-1W Super Cobra, respectively. UH-1Y fielding was completed in FY2010 while the AH-1Z fielding on MCAS Camp Pendleton will continue until 2017. In addition, MCAS Camp Pendleton will receive the MV-22 Osprey. Fleet Introduction Teams will

maintain a long-term presence at MCAS Camp Pendleton to ease the transition to these new aircraft thus bolstering San Diego's defense service industry.

MCAS Camp Pendleton currently possesses aircraft simulator trainers for the AH-1W, AH-1Z, UH-1Y, and CH-46 at Marine Aviation Training Systems Site that provide computer-based simulation for both new and veteran pilots. The simulators are designed to provide pilots with the most realistic training environments to prepare them for deployment to today's battlefields by recreating the cockpit, control systems, operation procedures, movement, and functionality of each type aircraft. They are also key in transitioning pilots to the new series AH-1Z and UH-1Y aircraft. The simulators save money by alleviating the cost and time of aircraft maintenance and fuel while increasing the amount of flight training time. As an example, currently there is an \$18 million dollar upgrade project that will house two MV-22 simulators and two Marine Common Aircrew Trainers (MCATs). The first MV-22 simulator is scheduled to be fully operational by August 2015. The MCATs are both scheduled to arrive in FY2016.

MCAS Camp Pendleton maintains a daily population of approximately 5000 military and civilian employees. With the transitioning of aircraft and their crews and the construction of a new hangar, the daily population will surge to nearly 6,000 people working on MCAS Camp Pendleton over the next five years. In addition, taxiway improvements, repair and expansion of hangars and buildings, expansion of the Combat Aircraft and Loading Area, and construction of aviation training and avionics communications facilities have occurred or are scheduled to occur within the next few years. In 2013 alone, the Air Station Public Works Department managed 22 projects totaling over \$220,000,000.

Another force multiplier located at the Air Station is Fleet Readiness Center Southwest (FRC SW) which provides depot-level maintenance to the H-1 platform. The Integrated Maintenance Concept was introduced for the AH-1W in 1999 at MCAS Camp Pendleton as a way to repair aircraft quicker and to return aircraft to flight ready status sooner. Traditional depot level maintenance cycles would result in a ten year aircraft deterioration period while awaiting a two year depot level maintenance cycle in Corpus Christi, TX. The success of the Integrated Maintenance Concept has resulted in the increase of local job opportunities and associated county income.

The future of MCAS Camp Pendleton is exciting with the potential return of the reserve Light Attack Squadron and the addition of Unmanned Aerial Systems (UAS) to the airfield. These additions would bring another 500 military personnel to work on the Air Station and civilian employment opportunities.

Marine Corps Air Station Miramar

Marine Corps Air Station (MCAS) Miramar is located about ten miles northeast of downtown San Diego and is bounded on the north by the communities of Mira Mesa and Scripps Miramar Ranch, on the west by Interstate Highway 805, on the south by California State Highway 52, and on the east by the City of Santee and unincorporated areas of the County of San Diego. The base is located about five miles east of the Pacific Ocean.

MCAS Miramar covers 23,065 acres of land and is divided into two sections. West Miramar (Main Side) is 8,077 acres in size and consists of all federal property west of I-15. This portion of the base has been thoroughly developed to support military aviation operations and houses the majority of associated hangars, administrative, medical, personnel and housing facilities. As of June 2014, there were 11,845 military personnel and 1,811 civilians working aboard MCAS Miramar who were actively engaged in a broad range of activities supporting base operations and tenant squadrons.



East Miramar is 14,502 acres in size and consists of all federal property located east of I-15. This portion of the base consists of 5 large training areas and is used to support many base and tenant operations (e.g., Explosive Ordnance Disposal), mandatory training requirements (e.g., marksmanship and convoy training), and/or leased to local government agencies for training purposes (San Diego

County Sheriff). In addition, East Miramar is home to numerous federally endangered fauna and species that the Marine Corps monitors on a regular basis and is obligated to protect under Federal law.

The VA Cemetery and some property immediately to the north constitute the remaining 486 acres just east of I-805 in west Miramar. The majority of this land is leased and administered by the VA separately from base operations for the interment of deceased military veterans.

MCAS Miramar has two official operating runways. The left runway (24L/6R) is 8,000 feet in length and the right runway (24R/6L) is 12,000 feet long. A third runway (10/28) was officially closed several years ago and now the southern portion is used for helicopter landing pads and other airfield operational needs. In addition, MCAS Miramar maintains a 1,000 foot long Helicopter Landing Deck (LHD) for rotary-wing training operations. A new control tower was built in the late 1990's and it continues to support Marine Corps operations at the base.



As of June 2014, there were 235 aircraft stationed at MCAS Miramar. Fixed-wing assets consist of Fighter Attack (FA)-18 Hornets and KC-130 Hercules aircraft, and rotary-wing assets consist of MV-22 Osprey tilt-rotor and CH-53 Super Stallion aircraft. There is also a small number of other miscellaneous fixed-wing aircraft assigned to the base. The Joint Strike Fighter (JSF) will begin replacing FA-18 aircraft starting next decade and six operational squadrons will ultimately call MCAS Miramar home.

Commands and Activities at the Base

Commanded by a Marine Corps Colonel, MCAS Miramar is a master air station and the Marine Corps' premier air station on the West Coast. The base is part of a larger command known as Marine Corps Installations West (MCIWEST), which is based at Marine Corps Base Camp Pendleton, and the Commanding Officer of MCAS Miramar reports directly to the Commanding General MCIWEST.

MCAS Miramar supports DoD and Southwestern training complex missions in a variety of ways. These include: 1) providing access for tenant squadrons and visiting detachments to multiple training ranges in eastern California, western Arizona and the Pacific Ocean; 2) serving as a base of air operations to all Marine Corps aviation units conducting training in the western United States; 3) providing a critical and necessary point of arrival or departure for all military unit deployments going across or coming back from the Pacific theater or overseas; and 4) serving as an emergency landing facility for FA-18 Marine Corps and Navy pilots conducting carrier exercises over the Pacific Ocean.

The primary tenant at MCAS Miramar is the Third Marine Aircraft Wing (MAW) known as the 3d MAW. 3d MAW is the air combat element of the First Marine Expeditionary Force, which is headquartered at Marine Corps Base Camp Pendleton. 3d MAW is commanded by a Major General whose Assistant Wing Commander is a Brigadier General. 3d MAW's subordinate commands at Miramar are Marine Aircraft Group 11, Marine Aircraft Group 16, Marine Air Control Group 38, and Marine Wing Headquarters Squadron 3. Its two other subordinate commands are Marine Aircraft Group 13, based at Marine Corps Air Station Yuma, Arizona, and Marine Aircraft Group 39, based at Marine Corps Air Station Camp Pendleton. 3d MAW consists of fixed wing, tilt rotor, and rotary wing aircraft.

The 3rd Marine Aircraft Wing's mission is to provide combat ready expeditionary aviation forces capable of short notice world wide deployment to Marine Air Ground Task Force (MAGTF), fleet and unified commanders.

Marine Corps Recruit Depot San Diego

Marine Corps Recruit Depot San Diego (MCRD SD) is home to the Recruit Training Regiment and the Western Recruiting Region headquarters. Aboard the Depot, male recruits from the western-two-thirds of the United States come to earn the title Marine. Consisting of 388 acres and 2,000 personnel, MCRD San Diego is the Corps' oldest West Coast installation, is one of the two entry level enlisted training facilities, and has several subordinate commands aboard the installation, including:

- > Western Recruiting Region Headquarters
- > Recruit Training Regiment
- > Weapons and Field Training Battalion
- > Headquarters and Service Battalion
- > Recruiters School
- > 12th Marine Corps Recruiting District Headquarters

MCRD graduates over 14,000 marines annually.

Western Recruiting Region Headquarters

San Diego is home to the headquarters of the Western Recruiting Region (WRR), which is one of two commands that fall under the Marine Corps Recruiting Command (located in Quantico, VA). Three district headquarters and 48 recruiting stations fall under WRR and are responsible for recruiting men and women from the western two-thirds of the Continental United States as well as from Alaska, Hawaii, Guam, American Samoa, the Commonwealth of Northern Mariana Islands, and throughout the Western Pacific.

Recruit Training Regiment

The mission of Recruit Training Regiment is to process and train male recruits from the western two-thirds of the Continental United States as well as from Alaska, Hawaii, Guam, American Samoa, the Commonwealth of Northern Mariana Islands, and throughout the Western Pacific. The Regiment provides entry level training to over half of the young men who join the Marine Corps each year, which amounted to 14,500 in FY 2014 alone. Recruit Training Regiment is also responsible for training drill instructors and officers entrusted with recruit training responsibilities.

Drill instructors are charged with transforming civilians into basically trained Marines. The extensive 13-week training cycle is the first step in the transformation process from civilian into United States Marine.

Located under the command of Recruit Training Regiment, MCRD San Diego's Drill Instructor School strives to be the premier leadership school in the Marine Corps. It encompasses more than 500 hours of academics, physical training, and practical application over an 11-week course.

Not only are students given a thorough review of all military skills, but they also receive intensive indoctrination in the conduct, regulations, and procedures of recruit training.

The students also undergo a comprehensive leadership package that includes time management, communication skills and, counseling. Squad instructors continuously evaluate and counsel their respective students to ensure maximum performance and preparation for training the nation's future Marines.

Weapons and Field Training Battalion

Every Marine is a rifleman and recruits begin learning those skills at Weapons and Field Training Battalion. During the second phase of recruit training, recruits travel to Weapons and Field Training Battalion, home to Edson Range, located at Camp Pendleton. There they undergo four weeks of marksmanship training. The first week is spent learning safe weapons handling, basic marksmanship skills, and mastery of basic firing positions with the M-16 A4 service rifle. During the second week, the recruits fire and qualify with the weapon on known and unknown distance ranges. The final two weeks consist of instruction in basic individual combat skills and marksmanship sustainment training. Near the end of training, recruits return to Edson Range and put their skills to the test during the Crucible, a 54-hour event that features 32 challenges over a course of more than 40 miles. Recruits learn the importance of stamina, teamwork, and leadership with limited sleep and food over the four day event. The culminating challenge is a nine mile hike up a steep hill known as "The Reaper." At the top of the hill, the recruits are presented the Eagle, Globe, and Anchor and earn the title "Marine."

Headquarters and Service Battalion

Headquarter and Service Battalion consists of the Marines, Sailors and civil servants who maintain and provide the infrastructure, security, logistical, and administrative support for all facilities located aboard MCRD San Diego. They ensure the needs of the recruiting and recruit training forces are met.

Recruiters School

The Marine Corps is always seeking America's best and brightest to serve their country and return to their communities as quality civilians.

Recruiters School is an integral part of the Corps' continued success in recruiting and retention. The school was activated aboard MCRD San Diego in October 1971 and became the sole Marine Corps recruiting school in August 1972.

More than 2,200 students graduate annually from five different courses that are taught at the school. The average length of a course is seven weeks. Courses are held year-round.

12th Marine Corps District Headquarters

The 12th Marine Corps District (12 MCD) is one of three recruiting districts in the Western Recruiting Region. The district is responsible for overseeing recruiting and shipping of young men and women from the Western United States and Western Pacific. The 12th MCD headquarters is located aboard the Depot and oversees eight recruiting stations.

The Past

On January 8, 1916, the Navy General Board approved the establishment of a Marine Corps base on the San Diego Bay tidelands area known as Dutch Flats. The base was authorized by a Naval appropriation bill of August 29, 1916, in large part due to the efforts of local San Diego Congressman William Kettner. In 1923, the Marine Corps recruit training for the west coast relocated from Mare Island Navy Shipyards in Vallejo, Calif. to its new home at the San Diego Marine Base. On March 1, 1924, the base that had been developed as a result of the vision and efforts of General Pendleton officially became Marine Corps Base, San Diego and would be known by that name for the next twenty-four years.

At its height the depot had over 800 acres but today the base consists of approximately 388 usable acres, much of which is reclaimed tidal area, and has 25 buildings in its Historic District on the National Register of Historic Places. Marine Corps Base San Diego has been home to the 4th, 6th, and 10th Marine Regiments, the Fleet Marine Force, and the 2nd Marine Division; however, during World War recruit training overshadowed all other functions. After the war, the recruit training detachment remained the principal tenant and on January 1st, 1948, Marine Corps Base, San Diego was officially renamed Marine Corps Recruit Depot, San Diego. The depot has expanded as needed over the years to support the needs of the nation. During the Second World War over 223,000 Marines trained here in eight battalions, most of whom went on to combat in the Pacific.

The Recruit Training Command grew again from three to eight battalions to handle the troop requirements for the Korean War; over 700 Quonset huts had to be erected to handle the influx of recruits, a few of which are still standing today. The Vietnam War caused the next period of major expansion; in this case a 100-tent cantonment was erected to handle the overflow of recruits. During the Vietnam period five new permanent recruit barracks, a new dining hall, new bowling alley, and a new Regional Dental and Medical Clinic were constructed on the depot.

In the 1970s the focus increased to include the recruiting effort and the Depot became Headquarters, Western Recruiting Region.

The Present

Today, MCRD San Diego provides 52% of the Corps' basically trained enlisted Marines. The Depot also provides leadership and support for over half of all Marine Corps officer and enlisted recruiting activities.

The Future

The future of tomorrow's Marine Corps begins at MCRD San Diego. The Depot will continue to evolve and refine training to meet the needs of the Nation.

I Marine Expeditionary Force

I Marine Expeditionary Force (I MEF) is a Marine Air Ground Task Force (MAGTF) that is expeditionary in nature and plans for and conducts worldwide missions across the entire spectrum of conflict. These missions can range from humanitarian assistance to direct combat operations and major theater warfare. Consisting of 50,000 personnel, I MEF is one of the premier forces in readiness, composed of several major subordinate commands including:

- > Marine Expeditionary Force Headquarters Group (MHG)
- > 1st Marine Expeditionary Brigade (MEB)
- > 1st Marine Division (MarDiv)
- > 1st Marine Logistics Group (MLG)
- > 3rd Marine Aircraft Wing (MAW)
- > 11th, 13th, 15th Marine Expeditionary Units (MEU)

I Marine Expeditionary Force Headquarters Group



I MHG provides administrative, training, and logistical support both while in CONUS and forward deployed to I MEF and 1st Marine Expeditionary Brigade (MEB) Command Elements. Housed within I MHG is 1st Anglico Battalion, 1st Intelligence Battalion, 1st Radio Battalion, 1st Law Enforcement Battalion, and 9th Communication Battalion.

1st Marine Expeditionary Brigade



On a large and small scale, Marines and Sailors remain ready to respond to a broad spectrum of challenges in the world and threats to our homeland, our citizens, our interests, and our allies. As a main effort in force development, the 1st Marine Expeditionary Brigade (MEB) is equipped to deploy forces in support of conventional combat operations and crisis response. A MEB comprises a Marine Air Ground Task Force (MAGTF) constructed around a Command Element, Aviation Combat Element, Aviation Combat Element, and a Logistics Combat Element totaling 5-12,500 personnel, dependent on the mission. The 1st MEB has the ability to exercise command and control of joint and multi-national task forces and can enable the MEF for larger Joint Task Force operations. This development brands the MEB as the cornerstone of an expeditionary force in readiness prepared for immediate, effective employment in any type of crisis or conflict.

1st Marine Division



The 1st Marine Division, nicknamed “The Old Breed,” is a multi-role, expeditionary ground combat force. Activated on February 1, 1941, aboard the USS Texas, 1st Marine Division is currently home to around 25,000 combat-ready Marines and sailors. The Division is employed as the ground combat element (GCE) of I MEF and may provide task-organized forces for assault operations. The 1st Marine Division must be able to provide forcible entry capability by land and sea to the naval expeditionary force (NEF) as well as conduct subsequent land operations in any environment. Located within the Division are the infantry regiments of 1st, 5th, and 7th Marine Regiments, the artillery regiment, 11th Marine Regiment, as well as 1st Tank Battalion, 3rd Assault Amphibian Battalion, 1st and 3rd Combat Engineer Battalion, 1st Reconnaissance Battalion, and the 1st Division Band.

1st Marine Logistics Group



Directly supporting the Ground Combat Element is the 1st Marine Logistics Group (MLG). With approximately 14,000 Marines, 1st MLG is critical to creation, maintenance, deployment, and employment of forces. Beginning in 1947 at Pearl Harbor, the 1st Marine Logistics Group encompasses a wide range of actions to include: supply, maintenance, transportation, general engineering, health services, and other services such as postal and disbursing.

3rd Marine Aircraft Wing



Located at Marine Corps Air Stations Miramar, Camp Pendleton, and Yuma, Ariz., the 3rd MAW offers the MAGTF with rotary-wing, tiltrotor and fixed-wing aircraft, support equipment, maintenance personnel, and pilots. The mission of the MAW is to provide combat ready expeditionary aviation forces capable of short notice, worldwide deployment to the MAGTF. Since 1942, 3rd MAW has supported the MAGTF from ships at sea ready to depart at a moment's notice to forward operating bases located in the most austere places in the world.

11th, 13th, and 15th Marine Expeditionary Units



The 11th, 13th, and 15th MEUs are MAGTFs with a strength of around 2,200 personnel each. The mission of the MEU is to provide geographic combatant commanders with a forward-deployed, rapid-response force capable of conducting amphibious special operations at night or under adverse weather conditions from the sea, land, and air. Each MEU consists of a command element, a reinforced infantry battalion, a composite helicopter squadron, and a combat logistics battalion. A deployed MEU is a vital element of the National Military Strategy requirement to maintain a capable forward presence.

Conclusion - The Mutual Benefits of the Military in San Diego

The strategic value of the San Diego region cannot be overstated. The unique relationship between the military and the San Diego region exists nowhere else in the country. The presence of DoD facilities, personnel, and equipment generates a significant economic impact on the San Diego region that far outpaces other industries in the area. At the same time, the military ecosystem that has been built in San Diego represents a core asset vital to the nation's defense.



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