

ABSTRACT

Title of Document: SUPPORTING THE TRIDENT: U.S. NAVAL
BASES FROM 1898 TO 1916.

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This thesis examines naval base expansion by the U.S. Navy during peace-time from 1898 to 1916 as the basis for considering important aspects of American naval policy and politics during a critical period of growth. It delineates the base budgetary dynamics of the navy, therefore providing a more complete representation of the dynamics of supporting a fleet. There are two related major arguments. First, that the United States built a fleet without adequate provision for the bases to support operations. And second, the naval spending was, largely driven by legislative political rather than strategic considerations. Exposition of these propositions will include consideration of the problem of naval bases as affected by 'pork-barrel politics, the manifestations of inter-service rivalry, and the lack of enforcement of a general naval policy. In addition, this thesis will examine the place of base spending with respect to overall expenditure on the navy.

SUPPORTING THE TRIDENT: U.S. NAVAL BASES FROM 1898 TO 1916.

By

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Chapter 1: Introduction

At the turn of the twentieth century the battleship was the predominant warship type and as such the primary constituent of naval power. These vessels caught the attention of the public and were the measure of the relative strengths of navies. In 1905, the launch of the *Dreadnought*, which was faster and more powerful than all earlier battleships, marked a new phase of the naval arms race across the globe. Navies were spurred to replace their old units with modern capital ships. In the United States, the fascination with battleships resulted in their being built in disproportionately large numbers at the expense of smaller warships and the support facilities. After the Spanish-American War the United States authorized a minimum of one battleship per year. Yet, after 1904, the United States did not authorize any cruisers until 1916 and only ordered sixty-four destroyers. The resulting ratio of battleships to lesser warships was one to three.¹ In comparison, British Royal Navy, the largest fleet in the world, had a ratio during the same period of one to eight.² While the Royal Navy built a balanced fleet and naval base structure to support operations around the globe, the United States Navy and Congress focused on battleships, and by doing so sacrificed operational capability for the appearance of strength.

Starting with the New Navy Act in 1883, the U.S. Navy began building a fleet consisting of up-to-date warships. The first ships of the New Navy fought in the Spanish-American War and the size of the fleet dramatically increased after the war. Along with the increase in the size and numbers of ships and greater numbers of seamen the Navy

¹ B.R. Tillman ed. *Navy Yearbook 1916*. (Washington D.C.: Government Printing Office, 1916), 618-623.

² Robert Gardiner *Conway's All the World's Fighting Ships 1906-1921*. (London: Conway Maritime Press, 1985), 4-84.

expanded and modernized its shore establishments. Naval bases provided mooring and dry dock facilities, along with repair shops and supply warehouses to keep the new fleet active and adequately repaired. However, while the construction of new battleships continued in varying annual numbers throughout the early twentieth century, a corresponding increase in naval facilities was not funded. Although the proportion of naval funding spent on new battleships and personnel increased there was no corresponding increase in public works, maintenance of yards, or maintenance of ships. Without an increase in number and size of facilities ashore the new ships the United States built would soon have been incapable of sailing. Steam-powered warships demanded more frequent maintenance and their steel hulls required regular dry docking periods to scrape the hulls. As the ships grew in size and displacement, longer piers and deeper harbors were necessary to moor the ships safe in harbors. Bigger dry docks were also mandatory to support the increased size.

While navy yards located around the industrial and population centers of Boston, New York, Philadelphia, and Norfolk allowed for ease of production and ship construction, they were far from any likely naval operational areas. Bases were needed to repair battle damaged ships and get the ships back to the fleet as rapidly as possible. The closer a major naval base, with heavy lift cranes and large dry docks, was to an area of operations, the quicker a naval vessel could return to the fleet. For the United States, after the Spanish-American War, the main area of possible operations was the Far East. The Caribbean remained a significant region though to a lesser extent than the Far East.

Serious historical writing about the American naval renaissance in the late nineteenth century emerged following World War One. In 1939, Harold and Margaret

Sprout published *The Rise of American Naval Power 1776-1918*.³ George Davis followed in the next year with *A Navy Second to None*.⁴ Both works offered early narratives of the growth of the American Navy and the emergence of the Navy as a world power, while focusing primarily on the development of the battle fleet and neglecting domestic base expansion. Overseas bases and facilities were only mentioned as an example of the diplomatic role of the Navy. More recent surveys addressed bases to a greater degree and examined the links between bases, national politics, and diplomatic moves. George Baer's *One Hundred Years of Sea Power* and Robert Love's *History of the U.S. Navy* incorporated these examinations; however, naval bases did not receive the attention that they deserved.⁵

There are several works that focused specifically on the rise of the New Navy in the late nineteenth century. Like several of the monographs mentioned previously, the focus remained heavily on the creation of the battleship fleet and paid little attention to naval bases. Walter Herrick's *The American Naval Revolution* served as the main example of the battleship centric historiography.⁶ Benjamin Cooling's *Gray Steel and Blue Water Navy* looked closely at the rise of the military-industrial complex during the period, covering armor production and armament development but ignored naval bases.⁷

A recent addition to the works on the growth of the military-industrial complex was

³ Harold and Margaret Sprout. *The Rise of American Naval Power 1776-1918*. (Annapolis: Naval Institute Press, 1990)

⁴ George T. Davis. *A Navy Second to None: The Development of Modern American Naval Policy*. (New York: Harcourt, Brace and Company, 1940)

⁵ George W. Baer. *One Hundred Years of Sea Power; The United States Navy 1890-1990*. (Stanford CA: Stanford University Press, 1994); Robert Love. *History of the U.S. Navy: Volume One 1775-1941*. (Harrisburg PA: Stackpole Books, 1992)

⁶ Walter R. Herrick. *The American Naval Revolution*. (Baton Rouge: Louisiana State University Press, 1966)

⁷ Benjamin F. Cooling. *Gray Steel and Blue Water Navy; the Formative Years of America's Military-Industrial Complex 1881-1917*. (Hamden CT: Archon Books, 1979)

Katherine Epstein's *Torpedo*.⁸ Epstein examined both the U.S. and British development of the self-propelled torpedo. Both works examined the evolution of both military contracts and naval factories. The overall growth of naval bases during the same period was not addressed in either monograph.

Other works focused on Theodore Roosevelt's presidency and his influence on the Navy. Two of these works were Gordon O'Gara's *Theodore Roosevelt and the Rise of the Modern Navy* and Henry J. Hendrix's *Theodore Roosevelt's Naval Diplomacy*.⁹ Both works examined Roosevelt's role in increasing the size and importance of the navy. However, both largely ignore naval bases except a few overseas installations. Though the writers put base growth in context with other naval spending and policies during Roosevelt's presidency, there were no comparisons to the following presidents. While Roosevelt groomed Taft as his successor, Taft did not support the overseas base expansion and domestic improvements begun under Roosevelt. Under Wilson, bases gained increasing support as American involvement in the Great War became likely.

During the period covered by this thesis Pacific bases received the most attention.¹⁰ Additionally, the significance of these bases was frequently overplayed with respect to their contribution to the Navy during the pre-World War One period. The only complete survey of naval bases is Paolo E. Coletta's edited volumes of both domestic and

⁸ Katherine C. Epstein. *Torpedo: Inventing the Military-Industrial Complex in the United States and Great Britain*. (Cambridge MA: Harvard University Press, 2014)

⁹ Gordon C. O'Gara. *Theodore Roosevelt and the Rise of the Modern Navy*. (Princeton NJ: Princeton University Press, 1943); Henry J. Hendrix. *Theodore Roosevelt's Naval Diplomacy; The U.S. Navy and the Birth of the American Century*. (Annapolis: Naval Institute Press, 2009)

¹⁰ The best example of these are William Braisted's *The United States Navy in the Pacific 1897-1909* and *The United States Navy in the Pacific 1909-1922*. (Annapolis: Naval Institute Press, 2008).

foreign Navy and Marine Corps bases.¹¹ These two volumes are compilations of individual base histories with little to no context of how each base interacted with others for funding or supporting the fleet.

Analyzing the period from the Spanish-American War to the Naval Act of 1916 allows the individual policies of presidents and secretaries of the navy to be viewed in relationship to one another. Expansion overseas contrasted with the growth of naval installations domestically provides better context for both. Imbalances in budgets and location of bases become strikingly evident when viewed over the nineteen-year span. The yearly funding changes are better compared over a multi-year span where differences are easily spotted and tied in with changes to naval policies and political support.

Coming to an understanding of the interaction between politics and military requests can be achieved through the examination of base growth and funding proportions. Funding and support for bases were always affected by political considerations. Numerous factions inside Congress, from heartland senators to coastal congressmen, all weighed in and competed for limited funding. These deliberations concerned the proper support needed for the Navy along with the distribution of naval bases as well the cost of moving or closing and opening new bases to move naval spending into new political regions. Changes in congressional leaders, executive personnel, and admirals along with a shift in political environment fostered uncertainty for long-term funding. Politicians preferred to spend money in their home state, and at the very most inside the continental United States. Overseas bases lacked political support and the concept of large navy yards abroad threatened congressmen from coastal

¹¹ Paolo Coletta, ed. *United States Navy and Marine Corps Bases, Domestic*. (Westport CT: Greenwood Press, 1985); Paolo Coletta, ed. *United States and Marine Corps Bases, Overseas*. (Westport CT: Greenwood Press, 1985)

states with the diversion of resources abroad; that is overseas bases would take work and federal money away from their domestic programs.¹² Pearl Harbor was the only overseas base that had begun to be built to the level of a navy yard by 1916.

The Navy enjoyed moderately steady support during Theodore Roosevelt's presidency. Support decreased under William Taft's administration as politics shifted the focus of naval funding to battleship growth. Naval base standing received new attention but no increase in funding during Woodrow Wilson's first term. Based off of both yearly appropriations as well as reported expenditures compiled for the *Naval Yearbook* starting in 1910, yearly naval spending is easily tracked.¹³ Total naval expenditures remained a steady fifteen to twenty percent of total federal spending. The Army made up another twenty to twenty-five percent of federal expenditures. While the Spanish-American War expenses caused a spike in the relative total expenditures, several patterns emerged from the funding breakdowns. Naval base funding came under several sections of yearly naval budgets. Base improvements were under Public Works, while maintenance of the bases and ships were additional separate line items. The trend of naval budget percentage spent on base public works dropped from a peak of nine percent in 1901 and declined to three percent in 1908 and remained fairly steady until 1910, rose briefly in 1911, and then sharply declined to one percent in 1916. As for the maintenance of both the bases and ships, the funding remained a fairly constant percentage of naval spending, close to one percent and seven percent respectively. During the same time period the percentage of naval expenditures on ship construction and pay increased dramatically. Pay increased

¹² While congressmen and senators often cited diplomatic and economic reasons behind their position on basing decisions, the core reasoning was the preference on spending money in their own region, or at the least within the continental U.S.

¹³ The *Navy Yearbook's* editor was B.R. Tillman, son of long-time member of the Senate Naval Affairs Committee, Ben Tillman.

on a consistent line from thirteen percent in 1898 to twenty-six percent in 1916. Ship construction grew as well except that it peaked at forty percent in 1904, decreased to fifteen percent in 1913 and rose again in the next three years to thirty percent with the major building program approved in 1916. As the American fleet increased in numbers and ship size, the facilities did not keep pace with the increases and overseas support lagged the furthest behind of all naval bases. In the end the United States built a large battle fleet but not an operationally deployable navy. They lacked the ability to use the fleet in possible operational areas due to the distances to naval bases and the deficiency of these bases, especially overseas.

Examination of base expansion will begin with the nature of naval stations and the existing system on the eve of the Spanish-American War. The creation of bases after the Spanish- American War follows with the arguments used during the period for what constituted the proper balance of bases. Political debates over bases will be addressed first with overseas bases in the Caribbean than in the Pacific Ocean and along the West Coast and finally on the East Coast. These deliberations over bases will serve as a case study of the role politics in naval expansion. Along with the creation of new naval bases, dry dock expansion and growth is the last key to understanding the requirements and pressure put on naval bases to grow to accommodate the increasingly large battleships of the American fleet.

Chapter 2: Nature of Naval Bases

Naval bases have been essential to navies since Athens and Carthage in ancient times. Over the centuries their characteristics and facilities changed and improved while their basic function remained the same, support of the fleet. At the start of the Spanish-American War there were a total of eleven naval installations. The distribution of naval installations was heavily weighted to the Northeastern corner of the United States. Two navy yards, Boston and Portsmouth, were only 70 miles apart. Following down the Atlantic Coast was Newport, New York, League Island in Philadelphia, Norfolk, Port Royal, and at the end of the Atlantic coastline was Naval Station Key West. Along the Gulf Coast there was an additional naval installation at Pensacola. On the West Coast there were only two naval bases, the Mare Island Navy Yard just south of San Francisco Bay and Puget Sound Naval Station across the sound from Seattle.

The Navy operated three types of shore facilities in support of their fleet; navy yards, naval stations, and coaling stations. Navy yards were primarily established to build naval ships, yet with the same facilities were well-equipped to carry out repairs.¹⁴ Dry docks, large maintenance shops, and fabrication shops existed to outfit ships. Naval stations provided mooring and supply facilities, with their main purpose of being homeports for ships to sail from. Naval stations had some repair facilities, but these were limited in comparison to the navy yards. At the lowest level of naval installation were coaling stations. Coaling stations provided ships with stocks of coal and were either adjacent to existing navy yards and naval stations or were independent from existing naval infrastructure. Independent coaling stations primarily consisted of coal sheds and a

¹⁴ Frederick C. Leiner, *Millions for Defense: The Subscription Warships of 1798* (Annapolis: Naval Institute Press, 2000), 5-21.

delivery method for the coal to ships. Equipment ranged from large coal gantries to small railways from sheds to the piers.¹⁵

Facilities differed from base to base, even within categories. Variances included differences in the number of piers and dry docks to the sizes of ships capable of being sustained. On top of variation within base types, the difference between the types were often only in size and not in actual facilities as several naval stations contained a dry dock while the Washington Navy Yard had no dry dock. Facilities differed from base to base since the actual classification of a naval installation was done by executive orders, not by minimum facility levels. This meant that the number of piers and dry docks would vary between bases, as would the size of ships capable of being sustained at an installation.

Several of the navy yards, including New York, Philadelphia, and Boston, had existed before the War of 1812. Mare Island was established in 1853, becoming the first permanent naval base on the west coast.¹⁶ Naval stations were a later development called into being by new operational requirements, including training of squadrons.¹⁷ Permanent coaling stations were the most recent of the installations; though numerous stations had existed during the Civil War to support the blockading ships. The new stations were created as one of the lessons learned from the Spanish-American War.¹⁸

Steam propulsion created new requirements for support ashore. Steam machine shops, increased docking requirements, and fuel supplies were all essential to support the

¹⁵ Department of the Navy, *Annual Reports of the Navy Department for Fiscal Year 1898-1916*, Washington D.C: Government Printing Office.

¹⁶ Sue Lemmon, "San Francisco, California," in *United States Navy and Marine Corps Bases, Domestic*, ed. Paolo E. Coletta (Westport, CT: Greenwood Press, 1985) 592-594.

¹⁷ Lyon G. Tyler, "Charleston Navy Yard," in *United States Navy and Marine Corps Bases, Domestic*, ed. Paolo E. Coletta (Westport, CT: Greenwood Press, 1985) 79-85. James C. Rentfrow, *Home Squadron; The U.S. Navy on the North Atlantic Station*, (Annapolis, MD: Naval Institute Press, 2014) 16-17.

¹⁸ DON, *Annual Report 1899*, 30-45.

new steam technology. Shore establishments had to change to support the technology with technical specialists, shops to repair the engines, along with increased docking capability to accommodate increases in ship size. On top of all these changes, the biggest shift was the creation of stockpiles of fuel; coal initially and later oil. Without these stockpiles around the globe, ships could not operate outside their nation's coast.

Technological developments were not limited to steam propulsion; armor, armaments, and hull materials all changed during the nineteenth century. As the rate of technological change increased, bases had to improve at a comparable rate. In practice however, the two rates between ship improvements and base improvements rarely matched.

The largest navy yard during this period was New York Navy Yard. In 1898, it had two operational dry docks and an additional dock under construction. Congress appropriated \$153,000 in Public Works improvement to the yard. Improvements included continued dry dock construction, dredging, building of new steel storehouses, and electrifying the yard.¹⁹ During that year the total operating cost for the yard was \$1,699,700; of this \$1,517,000 was spent on civilian yard labor, materials, and supplies for the repair and outfitting of vessels for the Spanish-American War. Other yards' budgets were small in comparison to New York. The next two largest operating budgets were Norfolk Navy Yard with \$841,700 and Mare Island Navy Yard with \$731,300.²⁰ The public works expenditures for the two yards were \$130,000 and \$216,800 respectively.²¹ In subsequent years, while other navy yards would receive more funding than New York, the yard remained a key installation to the Navy due to her overall size and the facilities offered at New York.

¹⁹ Tillman, *Yearbook*, 127, 566.

²⁰ DON, *Annual Report 1899*, 39-40.

²¹ Tillman, *Yearbook*, 566.

There were only four naval stations in existence prior to the Spanish-American War: Newport, RI, Port Royal, SC, Pensacola, FL, and Puget Sound, WA. Puget Sound and Port Royal were opened or reopened respectively in the early 1890s to support the increased training required of the fleet. Both of the stations had drydocks while the other two stations did not have these facilities. Of the stations, the largest was Puget Sound. During the Spanish American War, Puget Sound spent \$75,000 in operations and repairs with \$53,000 of the total spent specifically on ship maintenance and outfitting.²² During that year Puget Sound received improvements to the station totaling \$80,000.²³ At the outbreak of war there were no coaling stations.

Integral to naval bases were drydocks. Modern steel hulled ships required regular maintenance on their underwater hull. Drydocks allowed for this maintenance to be carried out. At the turn of the twentieth century there were two types, floating drydocks and graving docks. Floating drydocks were pontoon structures that would be sunk under a ship and then pumped dry and rose out of the water with the ship on a platform between the pontoons. Graving docks were excavated structures built into coastal banks where a ship would be floated in, a caisson closed behind, and the water pumped out, leaving the ship resting on blocks out of the water. Older methods were growing increasingly impractical for the larger ships. Careening, beaching a ship on her side, was nearly impossible and ship railways and lifts were impractical to be constructed at the required size for the new battleships and cruisers. Without drydocks the maintenance of the fleet was impossible.

²² DON, *Annual Report 1899*, 39-40.

²³ Tillman, *Yearbook*, 566.

Floating drydocks were constructed out of steel and took around three years to complete. Upon completion they would be towed to any base around the world. An advantage of the floating drydocks was their mobility; they could be relocated, which allowed for flexibility in ship maintenance. Yet, the size of vessels capable of being lifted by these docks was fairly limited. Only a few floating drydocks could lift armored cruisers and battleships. The two floating drydocks in use by the Navy by 1916 were *Dewey* at Olongapo and one at New Orleans Naval Station.²⁴ They cost a total of \$1,980,000 to complete and both entered service by 1905. Their maximum capacities were the *Connecticut* class battleships of 1906.²⁵

Graving docks were more numerous and capable compared to the floating drydocks. Graving docks could be made out of various materials, including wood, granite, and concrete. Wood docks were quicker and cheaper to build, however, they required frequent maintenance and repair to keep them in service. Granite and concrete were more expensive and durable as compared to wood. Building graving docks during the turn of the twentieth century took years to complete, frequently taking over a decade. The slow pace of construction meant that battleship designs often surpassed a dock's designed capacity before the dock was completed, forcing either an enlargement of the drydock or the construction of a new drydock. Either of these options took more time and funds. The two newest graving docks in 1916 were both completed in 1913 at New York Navy Yard and Puget Sound Navy Yard and cost \$2,500,000 and \$2,300,000 respectively.²⁶ In comparison, the *Pennsylvania* dreadnought of 1916 cost \$11,500,000.²⁷

²⁴ Tillman, *Yearbook*, 699.

²⁵ Tillman, *Yearbook*, 699-700.

²⁶ Tillman, *Yearbook*, 699-700.

²⁷ Tillman, *Yearbook*, 645.

In addition to dry docks there were many shops and storehouses at naval bases. Every technical category required in maintaining the new steel navy used shops at the installations. These facilities included machinery and tools to work on hydraulics, electrical systems, steam engines, and ordnance. Several of these shops were located in massive buildings that accommodated the large machine tools for building and repairing shipboard equipment. The move towards steel hulls and electrification of warships required a corresponding improvement in base shops to maintain the warships.²⁸ However, drydocks were a more telling comparison of the capability of bases to support the fleet.

Base infrastructure during the late nineteenth and early twentieth century was adapting to support the rapid improvements found in warship design. New machine tools, new buildings, electrically run workplaces, larger piers and drydocks all were necessary improvements to naval bases. However, ship construction and design outpaced the increased capabilities of the bases. The imbalance found in the U.S. Navy in 1916 required the formation of a commission to examine the state of naval base infrastructure and provide suggestions for requisite improvements to support the new fleet envisioned by the 1916 naval act. Naval bases remained the unglamorous portion of the navy and languished in relative obscurity, yet, they were essential in the creation of a navy.

²⁸ DON, *Annual Report 1899*; DON, *Annual Report 1905*; DON, *Annual Report 1911*.

Chapter 3: Post Spanish-American War Expansion

During the Spanish-American War, the existing base infrastructure of the United States was stretched to its absolute limit and numerous problems arose during debates over the need for naval base expansion after the peace settlement. In reaction to the broad geographic areas of naval action during the Spanish American War, the Navy called for an expansion of base infrastructure along the Gulf Coast and the creation of bases and repair facilities across the Pacific Ocean. Admiral Dewey's preparations in Hong Kong before sailing for Manila demonstrated the lack of American naval support in the Pacific. He outfitted his ships for the coming conflict before the declaration of war based off orders he received from Assistant Secretary of the Navy Theodore Roosevelt. Hong Kong was a colony of Britain with several dry docks and naval shops to support the Royal Navy; Dewey used these facilities until war was declared and then repositioned to a bay up the Chinese coast and awaited further orders.²⁹ In addition, the actions in the Caribbean proved that the facilities of the Southeast were inadequate to support a battle fleet in waters that the United States viewed as its own. The voyage of the *USS Oregon* from the west coast around Cape Horn served as a prime example for the strategic necessity of building a canal across the Isthmus of Panama. These three lessons would spur the creation of overseas bases.

Congress appropriated funds for the creation of several naval stations in the Caribbean and the Pacific. These naval stations were to meet the demands of increased naval presence abroad. Overseas naval stations enabled the American fleet to patrol and visit distant locations without relying on foreign support. In time of war or increased

²⁹ DON, *Annual Report 1898*; Davis, *A Navy Second to None*, 86-98.

operations, these new stations, when properly set up, allowed for repairs and outfitting closer to possible areas of operation. The first wave of these overseas stations was San Juan, Puerto Rico; Guam; and Cavite, Philippine Islands which were initiated immediately after the conclusion of hostilities in 1898. The next year, Hawaii was annexed and the funding was provided for a naval installation at Pearl Harbor. Another base was established at Tutuila, Samoa in 1900. Installations at Guantanamo Bay, Cuba and Olongapo, on Subic Bay in the Philippines, were established in 1901.³⁰ The new bases were on United States territory, which helped the Navy to start to gain independence of foreign infrastructure and supply chains.

These overseas bases extended the U.S. Navy's global support network for the fleet's diverse needs in peace and war, from emergency battle repairs to provisioning goodwill missions. The initial funding for overseas bases in the four years following the Spanish-American War totaled \$672,715, compared to the total public works spending of \$19,072,006.³¹ These newly established stations received just 3.5% of the amount of improvement money spent on bases. Further limiting the expenditures for naval base expansion overseas was indecision by naval leaders about where to locate bases and lack of communication between the naval leaders and Congress. Without clear direction for overseas spending, congressmen focused expenditures on their own constituencies allowing the lion's share of the improvements to continue to go to existing navy yards.

The case that exemplified the focus on existing installations was Portsmouth Navy Yard. The improvement of Portsmouth demonstrated the importance of policies and politicians in naval funding. Eugene Hale, the chair of the Senate Naval Affairs

³⁰ DON, *Annual Report 1905*.

³¹ Tillman, *Yearbook*, 560-576.

Committee, sought extra funding for New England. While there were two other major Navy Yards close to Portsmouth, New York and Boston, funding totaling \$1,250,000 for a new dry dock at Portsmouth was approved in 1899. While the new dry dock was large enough to fit the largest warship, it was discovered after the dock's completion that the channel to it was too shallow. The dredging operation cost another \$1,000,000 to rectify this defect.³² Within the next three years channel depth again became an issue because of increases in the draft of new battleships then on the drawing board.³³ Portsmouth's expansion baffled even naval officers. In 1908, then Chief of the Bureau of Yards and Docks, Admiral Hollyday testified to the House Naval Affairs Committee in regards to the large expenditures at Portsmouth. He answered Congressman Lilley's question "What is the object of your spending any more money on the Navy Yard at Portsmouth?" with "As long as we have a navy-yard there we have to spend money on it."³⁴ Hollyday's testimony exemplified the general mood in the Navy. Existing facilities always required funding for maintenance and gainful employment of officers and men. Previous decisions on location of the establishments and their ultimate purpose were rarely questioned by officers.

Along with extending the naval stations to overseas territories, naval leaders argued for the establishment of coaling stations. In 1898 the Coaling Station Board went up and down the Atlantic seaboard evaluating locations for coaling stations as well as the levels of coal to be stored at the new stations in addition to that maintained at existing navy yards and stations. It recommended establishing a separate coaling station at

³² Daniel J. Costello. 1968. *Planning for War: A History of the General Board of the Navy, 1900-1914*. PhD. diss., Fletcher School of Law and Diplomacy, 176-178; Tillman, *Yearbook*, 179, 196, 210.

³³ Costello, *Planning for War*, 178.

³⁴ U.S. Congress, House Naval Affairs Committee, *Hearings on Appropriation Bill Subjects*, 60th Cong., 1st session, H. Doc. No. 4, January 16, 1908, (Washington, 1908), 214-215.

Frenchmen's Bay, Maine and providing expanded coal reserves at the naval bases in Portsmouth, Boston, New York, Philadelphia, Washington, D.C.; Norfolk, and Port Royal. The new fuel depots were necessary to support the Navy's expanded training schedule.³⁵ Broad distribution of the stations throughout the United States enabled ships to train longer in training areas without the need for extensive collier support or buying small amounts of coal at locally higher prices. Frenchmen's Bay, Maine was established in 1899. The Bureau of Yards and Docks established independent coaling stations in 1900 at Melville, Rhode Island and Pichliinque in Baja Mexico; expanding beyond the initial recommendations of the board. In 1904, the last coaling stations were established at San Diego, California and Tjburon, California.³⁶ The coaling stations met the immediate needs of a training fleet in home waters but could not meet wartime requirements for the fleet. Inadequate coaling resources overseas became evident in the 1907-1908 World Cruise of the Great White Fleet.

The years following the Spanish-American War saw a massive expansion of naval bases and the rise of permanent American naval bases overseas. These initial moves required further development and some unified plan to dictate the levels of support facilities around the world. Yet, the plan never materialized due to several factors that caused irregular developments and a focus on existing bases along the American seaboard. Politicians seeking an increase in federal spending in their districts, inter-service disputes with the Army, and gridlock among naval leaders all influenced the continued expansion of naval power, including base expansion and support.

³⁵ DON, *Annual Report 1898*.

³⁶ DON, *Annual Report 1905*.

Chapter 4: Overseas Expansion

Additional naval bases in the Pacific were needed to support an enlarged naval presence in peace and the potentially larger forces that would be required in war. After the smashing success against the Spanish at the Battle of Manila Bay in 1898 and the subsequent acquisition of the Philippines, the United States began to push an Open Door Policy in China. Secretary of State Hay initially put the Open Door Policy forward in 1899; it sought to allow all nations free access to trade with China and avoid carving China into spheres of influence.³⁷ While tensions existed with Britain in the late nineteenth century over Venezuela and the possibility of a Panama Canal, relations with China were a greater policy challenge for McKinley.³⁸

China's distance from the United States and the presence of strong naval contingents of several great powers weakened the position of American policy implementation as compared to the Caribbean. McKinley considered two solutions to the China situation: to impose control of Chinese territory in competition with other Western nations, or to promote fair and equal access to the market. Opting for the latter, the Open Door Policy required more political effort than other foreign issues due to the greater complexity of competing national interests in the Chinese market.³⁹ Because of numerous countries seeking spheres of influence in China, the push by the United States for an Open Door policy created tension with those nations. Yet, tension had been relieved partially due to American involvement in suppressing the Boxer Rebellion. While the U.S. supported Chinese sovereignty they fought alongside European powers in

³⁷ "Secretary of State John Hay and the Open Door in China, 1899–1900," *U.S. Department of State Office of the Historian*. Accessed 11 November 2014, <http://history.state.gov/milestones/1899-1913/hay-and-china>.

³⁸ Davis, *A Navy Second to None*, 58-59.

³⁹ Baer, *Hundred Years of Sea Power*, 28-42.

suppressing the Boxers. This action allowed the American proposal to be partially accepted by the European powers.

In addition to the several European powers with imperial ambitions, Japan posed a growing threat to the United States' objectives in the Pacific. Japan saw East Asia as their sphere of influence alone and considered any Western power that had imperial intentions in Asia as an intruder. Tension rose between Japan and the U.S as American diplomats pushed for measures to execute the Open Door Policy. The American fleet was a large factor underpinning policy. The implementation of greater U.S naval presence in the Pacific became the task of Secretary of the Navy John Davis Long. He sought to capitalize on the territorial gains of the Spanish American War, and aimed to repair the shortcomings in the naval infrastructure exposed during the war as the foundation of substantial naval power projection into East Asia.⁴⁰

Yet, as the first decade of the twentieth century passed, the relative importance of the naval stations was questioned and debated among politicians and naval officers. Congress became increasingly reluctant to fund these newly established naval stations.⁴¹ The majority of public works funding continued to go to navy yards during the immediate years after the establishment of the overseas bases. In 1902, the recently established station on the island of Guam saw funding approved of only \$132; the two previous years saw only \$11,000 appropriated. The small naval station at New London, Connecticut had \$10,500 allocated in public works for 1902 alone.⁴² In 1903, Secretary of the Navy William Moody, sought increased funding for the overseas bases. He stated in the annual report that there was a large fleet in "Asiatic waters" with "no naval base...nearer than

⁴⁰ Baer, *Hundred Years of Sea Power*, 27-48; Davis, *A Navy Second to None*, 108-114, 127-134.

⁴¹ Sprout, *The Rise of American Naval Power*, 322.

⁴² DON, *Annual Report 1900-1902*.

Puget Sound or San Francisco Bay” and the ships depended on the use of foreign owned and controlled facilities in Japan and Hong Kong that might not be available during a political crisis or in the event of hostilities.⁴³ Moody continued, “[w]ithout a sufficient naval base of our own in Asiatic waters, the position of our fleet would be untenable.”⁴⁴ Bases across the Pacific would enable the American fleet to quickly be repaired near a probable area of operation as well as to continue routine patrols around the globe.

Disagreement within the Navy, rivalry with the Army, and lack of political support caused further problems for Pacific expansion. The Philippines were viewed by the U.S. as their bastion in the Far East and both services looked to expand and protect the islands. While Cavite Naval Station, in Manila harbor, received the most funding initially after the war, as well as the new drydock *Dewey*, Cavite was deemed too small to become the large repair facility envisioned by the naval leaders.⁴⁵ The Navy General Board urged the Bureau of Yards and Docks and Congressmen to move the facilities at Cavite to Olongapo in Subic Bay. Leading the charge for the shift to Olongapo was Admiral Dewey, hero of the Battle of Manila and President of the General Board. Dewey’s support came from lessons based on his victory at Manila. Cavite had proved to be defensively weak in its location and defensive structures. Manila Bay was too small in Dewey’s opinion and the base at Cavite had too little land to support the large base proposed for the Philippines. Subic Bay offered a larger sheltered harbor and enough

⁴³ DON, *Annual Report 1903*, 13.

⁴⁴ *Ibid.*

⁴⁵ *Ibid.*

land to support a large base. Dewey argued that if the Spanish fleet had taken shelter in Subic Bay that he would not have been able to defeat them.⁴⁶

The U.S. Army, however, played a role in determining the location of the naval base in the Philippines. Initially the Army left the decision to the Navy and maintained it was solely a naval matter. In 1906, the Army changed its position in reaction to the Russian loss of Port Arthur in the Russo-Japanese War and questions this military disaster raised over defense of harbors.⁴⁷ After surveying of the harbors and surrounding territory the Army pushed for Manila to be the stronghold of the Philippines, ruling Subic Bay too difficult to defend from a landward attack. They asked the Navy to shift the proposed main base to Cavite, since it would fall within the defenses of Manila, thus allowing a consolidated fortification plan. The Navy vehemently opposed the move as Subic Bay possessed what it regarded as compelling advantages as a naval base. Created in 1903, the Joint Army-Navy board debated the defense of the Philippines as well as the location of the naval base for three years, from 1907 to 1910. While the debate was raging within the board, Congress refused to fund any significant improvements at either Cavite or Subic Bay until the Joint Board reached a decision.⁴⁸

While the debate over the Philippines occupied the Army and Navy, the question of Hawaii awaited the outcome of the debate. Though the Navy insisted that the Philippines serve as the anchor of naval presence in the Far East, they also saw use in Hawaii as well as Guam. The key debate around Hawaii was whether a significant or

⁴⁶ Ronald Spector. *Admiral of the New Empire; The Life and Career of George Dewey* (Baton Rouge, LA: Louisiana State University Press), 164-165.

⁴⁷ Brian M. Linn. *Guardians of Empire; The U.S. Army in the Pacific, 1902-1940* (Chapel Hill, NC: The University of North Carolina Press, 1997), 83-85.

⁴⁸ Robert T. Davis ed. *U.S. Foreign Policy and National Security Vol I.* (Santa Barbara CA: Praeger, 2010), 29-31; John B. Lundstorm, "Subic Bay, Luzon, Philippine Islands," in ,” in *United States Navy and Marine Corps Bases, Overseas*, ed. Paolo E. Coletta (Westport, CT: Greenwood Press, 1985), 310-314.

small base would be constructed in the islands. Hawaii's strategic location was appreciated before the annexation of the islands. During the Spanish-American War a sugar magnate bought up water frontage around Honolulu and all the available coal and offered the land and coal to the Navy for use as a coaling station. After the war the coaling station remained. Pearl Harbor, eight miles west, presented a large sheltered harbor, one of the best in Pacific. By 1903, allocations for the creation of a base at Pearl Harbor appeared in the budget; however, the future size remained undetermined.⁴⁹

The General Board changed their view of Hawaii in 1907. They saw Pearl Harbor as a great location for a large naval yard. Included in the 1907 proposal was the largest dry dock constructed by the Navy along with all the requisite machine, steam, and manufacturing shops to outfit and repair the battle fleet. With the Philippine debate continuing over both where a naval station would be located as well as the level of repair ability at the base, Pearl Harbor was seen as an essential base for fleet operations across the Pacific. The General Board saw the importance of a large dock at Pearl Harbor regardless of the decision in the Philippines. Pearl Harbor would either serve as a mid-ocean naval station for the fleet in conjunction with a large Asiatic base in the Philippines or it would act as the furthest naval yard in the Pacific. With the Board's arguments Roosevelt pushed Congress for funding at Pearl Harbor to build the dry dock.⁵⁰ In 1908 funding was allocated for the construction of a dry dock with an initial outlay of \$1,000,000 with another \$1,200,000 following the next year.⁵¹ The push for Pearl Harbor raised questions from Congress as to which location, Olongapo or Pearl Harbor, would become the main yard in the Pacific. These questions would not be answered until the

⁴⁹ Tillman, *Yearbook*, 530-555.

⁵⁰ Spector, *Admiral of the New Empire*, 166-171.

⁵¹ Tillman, *Yearbook*, 530-555.

Joint Board made their recommendations in 1910.⁵² Pearl Harbor represented the first significant expenditure for base improvements outside the coastal United States. Finally an overseas base received funding equivalent to major navy yards in the United States.

With Roosevelt's maneuverings for the creation of the Panama Canal, the Caribbean Sea once again rose in prominence in American diplomacy and naval policy. In support of securing the Caribbean, President Roosevelt added the Roosevelt Corollary to the Monroe Doctrine in 1904. The corollary stated that the United States would take steps to enforce European claims in Latin America rather than European powers enforce their own will in the region. Roosevelt sought to push Europeans to the periphery of Latin American affairs replacing them with the United States.⁵³ The actions taken by the U.S. in Latin America became known as Banana Wars and lasted through the 1930s. The Navy and Marine Corps bore the brunt of the engagements taken throughout the Caribbean and naval bases were required to support these forces.⁵⁴

The existing infrastructure in the Gulf of Mexico and the Caribbean had been inadequate to meet the needs of the battle squadrons during the Spanish-American War. To rectify the problems, expansions to existing bases at Key West and Pensacola were sought. A floating dry dock was constructed for the new navy base at Algiers, Louisiana, and naval installations in Cuba were agreed upon with the new Cuban government.⁵⁵ Two bases were sought in Cuba, one on the north side of the island near Havana, and

⁵² Davis, *U.S. Foreign Policy*, 29-31.

⁵³ Hendrix, *Theodore Roosevelt's Naval Diplomacy*, 9-14.

⁵⁴ DON, *Annual Report 1904-1908*; Dirk Bonker, *Militarism in a Global Age: Naval Ambitions in Germany and the United States before World War I* (Ithaca, New York: Cornell University Press, 2012) 119-120.

⁵⁵ DON, *Annual Report 1899-1901*; Daniel L. Woods, "New Orleans, LA," in *United States Navy and Marine Corps Bases, Domestic*, ed. Paolo E. Coletta (Westport, CT: Greenwood Press, 1985), 337-339; Bradley Reynolds, "Guantanamo Bay, Cuba," in *United States Navy and Marine Corps Bases, Overseas*, ed. Paolo E. Coletta (Westport, CT: Greenwood Press, 1985), 146-150.

Guantanamo Bay on the south side. Guantanamo Bay had been captured as a supply depot during the blockade of Santiago harbor in the Spanish-American War.

Guantanamo Bay was seen as a step in remedying shortcomings and allowing American squadrons to train and patrol in the Caribbean.⁵⁶ Between 1904-1906, there was a ten-fold increase in funding for Guantanamo Bay. By 1906, the base was receiving funding comparable to the navy yards in Norfolk and Charleston.⁵⁷

The General Board recommended building Guantanamo into a large navy yard, centered on a dry dock large enough to house the recently commissioned battleships of the *Kearsarge* class. The board saw the base as a seasonal home for the fleet and as such a dry dock large enough to hold the biggest battleship would be needed to conduct routine maintenance. Furthermore the base could be used to outfit a fleet in times of war if an enemy sought to attack the planned Panama Canal. Machine shops, storage facilities, and steam plants also appeared in the plan for Guantanamo. These ideas halted as soon as they were envisioned as concerns arose over Guantanamo Bay.⁵⁸ Poor water conditions and doubts about the overall defensibility of the proposed grounds caused immediate hesitation by politicians and other naval leaders in building up the base. Further complicating the question of defense, Cuba ceded only one fifth of the land initially requested by the Navy. Increasing the size of the base was sought to support both the size of the facilities and the defense of the base from landward attack. Expanding the base boundary grew in importance after the Russo-Japanese War. The same lessons taken from the Japanese attack on the Russians in the Port Arthur that drove the Army to push for the naval station at Cavite caused both services to seek further land

⁵⁶ Sprout, *The Rise of American Naval Power*, 340-341.

⁵⁷ DON, *Annual Report 1906-1908*; Reynolds, "Guantanamo Bay, Cuba," 146-150.

⁵⁸ Reynolds, "Guantanamo Bay, Cuba," 146-150.

around Guantanamo. The Japanese had used the high ground around Port Arthur to bombard the Russian positions below, the Army and Navy sought to move the hills around Guantanamo Bay within the base boundaries. The initial terms for the base lease from Cuba did not include several hills around the bay. In subsequent years, the initial outlay was not supported by additional funds to complete the planned facilities.

With the bulk of naval base expenditures in the Caribbean flowing to Guantanamo, Key West Naval Station declined temporarily in priority. During the same period of ten-fold increase at Guantanamo, Key West funding fell from \$120,000 to just \$2,000. Yet the decline in Key West lasted only for a couple of years. Commodore William Beehler argued the case for continued funding and expansion of Key West. Commodore Beehler served on the cruiser *Montgomery* during the Spanish-American War, which visited Key West during the conflict to be outfitted. The experience and views seen at Key West during that conflict caused Beehler to appreciate the utility of Key West. Drawing on his wartime experience and later service, he set out an argument that Key West and Guantanamo naval bases could work in tandem to secure the approaches to the planned Panama Canal.⁵⁹ Along with Beehler's appeal, Florida congressmen added their political and economic arguments for further funding and improvements at Key West. Over the next six years Key West received \$296,376 of improvements while Guantanamo received no funds past the 1905 allocation.⁶⁰ Guantanamo Bay's establishment was almost immediately impeded because of political trepidations, diplomatic issues, and the proximity of American states to the base that offered more political leverage with respect to the allocation of federal money.

⁵⁹ Beehler, William. 1908. The Strategic Importance of the Naval base at Key West and its Strategic Lines of Force. *Proceedings* 34, no. 2.

⁶⁰ Tillman, *Yearbook*, 560-576.

When Roosevelt left office, his administration had doubled the number of naval bases. Largely a result of the Spanish-American War, the overseas bases added to the inventory marked a significant change in naval policies. Intended to support American diplomacy overseas, either via the Roosevelt Corollary in the Caribbean or the Open Door Policy in the Pacific, overseas bases required further development. Necessary funding to build the large overseas repair facilities never materialized during Roosevelt's presidency. Political infighting and reluctance to build bases that might rival and supersede continental bases was a primary factor in the lack of development. Contributing to the lack of direction were the debates between the Army and the Navy at the Joint Army-Navy board sessions. Political reluctance continued however and would until the outbreak of World War One.⁶¹

⁶¹ Sprout, *The Rise of American Naval Power*, 322-323.

Chapter 5: Coastal Expansion

While debates and infighting stymied overseas base growth in the Pacific the Western coastline received increased attention during the early twentieth century. For the same naval reasons that justified the retention of the Philippines and the annexation of Hawaii, additional navy yards were sought along the west coast of the mainland United States. By World War One two navy yards existed, with naval leaders calling for an additional third yard. Dry dock expansion at existing yards, however, did not keep up with the growth of the fleet and size of the ships. Without adequate infrastructure, any talk of basing a battle fleet in the Pacific remained speculative at best. Europe's arms race, economic growth expected in the Caribbean, and the dearth of naval support in the Pacific dictated the American battle fleet remain in the Atlantic.

Until 1891, Mare Island in San Francisco Bay, California, was the only navy yard on the Pacific Coast. In that year, Puget Sound Naval Station, which was situated 840 miles to the north in Washington State, was founded in order to ease the strain on Mare Island. The new base improved significantly the west coast's capacity to support a battle fleet. The new naval station's location across the Puget Sound from Seattle offered deep water approaches right to the shore line. The base contrasted from Mare Island's location at Vallejo with a long channel that was too shallow to accommodate the draft's of the larger battleships coming into service. Upon the station's founding, construction started on a wooden dry dock, completed in 1896. Puget Sound's new dock was larger than the existing dock at Mare Island and at the time of completion it was large enough to handle the biggest American warship. While the body of the dock was wood, the entrance was out of stone, this mix of materials made it resistant to damage from shipworms

(teredoes).⁶² This dry dock freed the U.S. Navy from its former dependence upon dock facilities in British Columbia.⁶³

As a newer base, Puget Sound always came second to Mare Island. During the Spanish-American War, Puget Sound played a supporting role to Mare Island. Puget Sound Navy Yard funding was 60% of Mare Island's funding. In 1898 with the war preparations, Puget Sound received \$80,143 while Mare Island received \$216,785.⁶⁴ Following the war, along with the rest of the base expansion movement, Washington State congressmen and several naval officers advocated for improvements to Puget Sound. Mordecai T. Endicott, the Chief of the Bureau of Yards and Docks, opposed any expansion in the existing facilities at Puget Sound. Endicott contended that Mare Island was already a highly developed base and increasing facilities at Puget Sound was unnecessary. He felt that Puget Sound was too far from railroads and lacked the local industrial and manpower support needed for a large navy yard. In comparison, Mare Island had a granite dry dock large enough to hold the existing coastal battleships. Beside the dry dock, Mare Island was close to San Francisco and already contained several machine and steam shops. Mare Island's dry dock however, was too small to service the latest battleships on the drawing board.⁶⁵

Nonetheless, in the same report Endicott argued for a second navy yard on the West Coast. He stated, "as the Bureau believes, then another site should be sought which combines the essential requirements of such a yard."⁶⁶ A second yard would bring

⁶² William M. Belote, "Puget Sound Washington," in *United States Navy and Marine Corps Bases, Domestic*, ed. Paolo E. Coletta (Westport, CT: Greenwood Press, 1985) 508-509.

⁶³ Sprout, *The Rise of American Naval Power*, 321-322; Bonker, *Militarism in a Global Age*, 119-120.

⁶⁴ DON, *Annual Report 1898*.

⁶⁵ DON, *Annual Report 1898-1900*; Lemmon, "San Francisco, California," 592-594.

⁶⁶ Lemmon, "San Francisco, California," 592-594.

federal funding of a major yard to another location, bring further congressional support for naval policies, and eliminated the threat of one enemy action taking out the only American naval yard on the West Coast. The location of the second navy yard became the central debate in the Navy and Congress. Endicott preferred Southern California to an expansion of the base at Puget Sound. In his arguments to Congress he cited the Puget Sound's location, lack of railroad access, and distance from major population centers as reasons to support a Southern California base.⁶⁷ According to his recommendations Puget Sound would remain open but only at its current level.⁶⁸

The base commander at Puget Sound, Commander Ambrose Wyckoff, however, opposed Endicott's plan. He thus formed a committee to enhance Puget Sound's attractiveness to Congress and to argue for its expansion.⁶⁹ Wyckoff went further, and personally met congressmen at the railway station and escorted them on a tour of Puget Sound while they were on a tour of existing West Coast facilities and proposed locations.⁷⁰ These efforts resulted in Puget Sound being designated a navy yard, an upgrade from naval station, in 1900 and funds were appropriated to construct a second dry dock big enough to berth the largest battleships then on the drawing board. In 1903, Puget Sound achieved rough parity with Mare Island, receiving only 3% less funding than its competitor to the south.⁷¹ This equality in support was not continued in subsequent years. In 1905 Puget Sound's funding was 30% less than that of Mare Island.⁷² Funding issues delayed completion of the additional dry dock until 1913.

⁶⁷ DON, *Annual Report 1898-1900*; Lemmon, "San Francisco, California," 592-594.

⁶⁸ DON, *Annual Report 1898-1900*; Lemmon, "San Francisco, California," 592-594.; Belote, "Puget Sound, Washington," 510.

⁶⁹ Belote, "Puget Sound Washington," 508-511.

⁷⁰ Belote, "Puget Sound Washington," 510.

⁷¹ DON, *Annual Report 1903*.

⁷² DON, *Annual Report 1095*.

Nonetheless, improvements to the rest of the yard enabled the yard to handle the modern warship designs as well as support future growth in the fleet.⁷³

Puget Sound Navy Yard expanded throughout Roosevelt's presidency mainly as an outgrowth of increased tension in the Pacific. After the Russo-Japanese war, Japan posed a greater threat to the United States position in East Asia in general and the Open Door Policy in particular. While battleships remained in the Atlantic, infrastructure was required to support the ships in the event of deployment to the Pacific.⁷⁴ And on the opposite coast, the centrality of the Northeast came under fire as numerous naval leaders and politicians sought to build navy yards south of Cape Hatteras.

A final example of the interaction of politics and base expansion was the case of Port Royal and Charleston in South Carolina. Following the precedent set by Senator Hale, Senator Tillman sought to increase naval spending in South Carolina.⁷⁵ The existing naval station of Port Royal had been expanded shortly before the outbreak of the Spanish-American War. The base was originally used during the Civil War as a naval resupply post for blockading squadrons but was reestablished in 1883 as a naval station. Immediately afterwards extensive improvements were made in the creation of repair facilities as well storage sheds and barracks. Capping the improvements at Port Royal was the construction of a large wooden dry dock. Senator Tillman was the main actor in securing the funds for the dry dock; he saw the dock purely in terms of increasing federal money to South Carolina. As he stated bluntly, "I am trying to get a little for Port Royal

⁷³ Belote, "Puget Sound Washington," 509-512.

⁷⁴ Sprout, *The Rise of American Naval Power*, 118-119; Bonker, *Militarism in a Global Age*, 116-120; Davis, *A Navy Second to None*, 170-180.

⁷⁵ Senator Tillman, nicknamed Pitchfork Ben for his brashness, was a long time member of the Senate Naval Affairs Committee, serving as the chairman during Wilson's presidency. He was a Democrat and opposed overseas territorial expansion, yet, he supported his fellow Senators that had navy yards in their states. Francis Butler Simkins, *Pitchfork Ben Tillman, South Carolinian*. (Baton Rouge LA: Louisiana State University Press, 1944), 510-514.

because, if you are going to steal, I want my share.”⁷⁶ The dock was completed in 1895 just in time to aid in the naval mobilization during the Spanish-American War.⁷⁷ At the time of completion the dry dock was capable of handling the largest battleships then in commission. It was, notwithstanding, an unsatisfactory addition for several reasons.

Unlike Puget Sound’s stone entranceway to its wooden dry dock, Port Royal’s wooden dry dock had no such protection from the elements. After the Spanish American War, Secretary Long and Chief Endicott proposed encasing the dock in stone to prevent deterioration by weather and teredoos. Another major problem was the channel depth silting up from the Broad River. Constant dredging was the only solution to this issue and many critics and politicians sought to establish a navy yard elsewhere in the region instead of constantly dredging the channel to the dry dock.⁷⁸ In addition, Tillman’s political wrangling shifted from beefing up Port Royal to creating a new base at Charleston.

Senator Tillman sought extra funding for South Carolina.⁷⁹ While he just pushed for expanding Port Royal in a similar manner to Hale at Portsmouth, Tillman sought a navy base in Charleston to further strengthen his political support. After he pushed naval leaders and the rest of Congress to ignore several shortcomings in the location of Port Royal he used those shortcomings to justify the creation of Charleston. Naval leaders viewed Charleston as an improved location as well and threw their support behind the creation of the new base. In the closing years of Secretary Long’s tenure, Tillman’s proposal gained traction. A naval committee was created in 1900 to provide Congress

⁷⁶ Quoted in Costello, *Planning for War*, 180.

⁷⁷ William M. Darden, “Parris Island South Carolina,” in *United States Navy and Marine Corps Bases, Domestic*, ed. Paolo E. Coletta (Westport, CT: Greenwood Press, 1985) 416-422.

⁷⁸ DON, *Annual Report 1900-1901*.

⁷⁹ Tyler, “Charleston Navy Yard,” 79-85.

with the relative merits of Tillman's request. The committee agreed to establish a navy yard in Charleston and congressional approval came in 1901. Port Royal's funding that year saw over a 50% decrease with the establishment of Charleston Navy Yard.

As seen with the other base expansion debates, political support for expansion was tenuous. Presidential administrations changed and so did support for Charleston Navy Yard. In 1903, Secretary Moody, the new Secretary of the Navy, argued in Congress that the Navy did not desire Charleston and had no business maintaining a base there.⁸⁰ But Moody moved onto to become the Attorney General later in 1904 and was replaced briefly as Secretary of the Navy by Paul Morton for a year and then Charles Bonaparte. These quick shuffles within President Roosevelt's cabinet disrupted policy. A direct result of this discontinuity was languishing of a decision on the South Carolina base debate.⁸¹ Funding for Port Royal continued to dwindle until reaching \$23,000 in 1903 and then doubled to over \$48,000 in 1904 and then shriveled to \$5,000 in 1905. During the same years, Charleston saw an 800% increase, going from \$61,000 in 1903 to \$494,000 in 1904. Charleston continued its much higher level of funding after 1904. In 1915 Port Royal became Parris Island Marine Corps Training Depot after nearly a decade as an under-funded naval installation.⁸²

All of these political anglings to increase funding in a politician's district drove many to see bases in exclusively political terms. By 1905 the political infighting became so rampant that the House Naval Affairs Committee stated: "too often in the past naval stations have been located at the behest of local and political influence. The time has

⁸⁰ Tyler, "Charleston Navy Yard," 79-85.

⁸¹ Baer, *One Hundred Years of Sea Power*, 36-42; Davis, *A Navy Second to None*, 175-180; Sprout, *The Rise of American Naval Power*, 320-326.

⁸² DON, *Annual Report 1901-1905*; Darden, "Parris Island South Carolina," 416-422.

come when naval stations should be located for the best interests of the American Navy by men whose business it is to know what the naval service demands.”⁸³ Ironically the naval leaders tasked with determining these decisions, the General Board, served only in an advisory capacity to the Secretary of the Navy. As seen with the gridlock of the Joint Army-Navy Board with the question of the Philippines, the General Board often argued within itself on the proper distribution of naval facilities. While only an advisor to the Secretary of the Navy, the board was reluctant to provide specific recommendations during the first decade of its existence. The reluctance stemmed from several reasons. First, the board often saw their recommendations overturned by congressional debates. Further, the board was only in its infancy having only been established in 1903 after decades of debate over the role of a board. With the numerous secretaries coming through the board did not always push their opinions to the furthest extent for self-preservation.⁸⁴

The decision over Charleston and Port Royal exemplified the political nature of base expansion during this period. With the creation of Charleston Navy Yard in 1901 Port Royal saw an immediate drop in funding as well as the general suspension of all but routine maintenance at the yard. In contrast to the West Coast debate over Navy Yards, the political environment and military leadership decided to build a new yard rather than expanding an existing base. The strength of the political and military lobbying for the creation of a new base resulted in Charleston. On the West Coast a third base would wait

⁸³ U.S. Congress. House. Naval Affairs Committee, 1904. 58th Cong. 2nd session, February 11., 13.

⁸⁴ Costello, *Planning for War*, 222-225.

until the 1916 Commission on Navy Yards and Naval Stations recommendations and the prospect of war.⁸⁵

⁸⁵ The Great White Fleet stopped at Puget Sound during its round the world cruise in 1907-1909. There were few repairs needed before the trip across the Pacific Ocean. However, the fleet depended on British coal supplies across the globe, receiving majority of it by foreign ships due to the United States Navy only owning 2 modern colliers. George Baer, *One Hundred Years of Sea Power*, 47; Navy Yard Commission, *Preliminary Report of the Navy Yard Commission*. Washington: Government Printing Office, 1916.

Chapter 6: Taft Presidency

In 1909, William Taft was sworn in as President and appointed George von Lengerke Meyer as the new Secretary of the Navy. Unlike the numerous men serving as the Secretary of the Navy during Roosevelt's presidency, Meyer served Taft's entire term. Meyer had worked with Taft in Roosevelt's administration where Taft was the secretary of war and Meyer was the postmaster general.⁸⁶ Indecisions and uncompleted debates over naval base expansion carried over from Roosevelt's presidency. Taft's inaugural address stated there was a requirement for "a suitable Army and a suitable Navy," and he would address any situation "growing out of the Open Door and other issues."⁸⁷ During his presidency, however, Taft never specified what constituted a 'suitable navy.' Taft's administrative policies shed no further light on these definitions. During the four years of Taft's administration naval budgets went from \$124,618,800 to \$130,644,900. Yet, national expenditures outstripped the growth of the naval budget, causing the percentage of the national budget spent on the Navy to decrease from 21% to 18%.⁸⁸ One of the causes of this shift was the result of a change in congressional control.

As the Democratic Party rose in power during Taft's presidency the military represented an area that could be cut in order to support their own programs. Additionally, the Progressive Movement gained supporters from both parties, building on the legacies of anti-trust and anti-corruption of Roosevelt's presidency.⁸⁹ Growing divisions in Congress forced the Navy to prioritize which programs to push the most to a

⁸⁶ Paolo E. Coletta, "George Von Lengerke Meyer," in *American Secretaries of the Navy Volume I*, ed. Paolo E. Coletta (Annapolis, MD: Naval Institute Press, 1980) 495-498.

⁸⁷ Quoted in Baer *One Hundred Years of Sea Power*, 47.

⁸⁸ DON, *Annual Report 1910-1914*.

⁸⁹ Coletta, "George Von Lengerke Meyer," 501-504; Robert Love, *History of the U.S. Navy: Volume One 1775-1941*. (Harrisburg PA: Stackpole Books, 1992), 445.

greater extent than in the past.⁹⁰ Once again battleships remained the focus due to the practice of ranking international power by the size of the battle fleet. The European dreadnought race was heating up and the strides Roosevelt made in battleship construction were not enough to keep up with Britain and Germany. Britain's battleship building was determined by the two power standard. The standard was enshrined in the Naval Defense Act of 1889 and dictated that Britain maintain a battleship fleet ten percent larger than the next two powers' fleet combined, while the British cruiser fleet maintained a higher superiority.⁹¹ Yet, the focus of their plans was now on Germany. Taft faced a growing challenge by Democrats over the U.S. attempting to keep up with the European nations. Naval base building once again was pushed further back in priority as funding debates grew. Many of the initial outlays in naval base expansion were not followed up with continued public works funding causing a decline in naval infrastructure throughout Taft's presidency.⁹²

Unlike Roosevelt, who largely directed policy and administration while the Secretary of the Navy dealt with the management of patronage, Taft left Meyer together with the bureau chiefs and the General Board on their own. Though the Navy possessed a stable leadership, the shift in Congress hampered efforts for steady naval funding, resulting in work stoppages.⁹³ While long term contracts offered approved funding over several years, ideal for ship construction and large public works improvements at naval

⁹⁰ Sprout, *The Rise of American Naval Power*, 338-340

⁹¹ Jon T. Sumida, *In Defence of Naval Supremacy; Finance, Technology, and British Naval Policy, 1889-1914* (Annapolis, MD; Naval Institute Press, 2014), 14-15.

⁹² Davis, *A Navy Second to None*, 188-190; Baer, *One Hundred Years of Sea Power*, 47-48.

⁹³ DON, *Annual Report 1910*.

bases, the normal form of naval funding remained yearly appropriations. Stoppages were caused primarily by the lack of continued yearly funding for projects.⁹⁴

Larger docks had been authorized during Roosevelt's administration at League Island, Norfolk, and Puget Sound to match the rapid growth in size of battleships. All of these works faced delays that caused several of these docks to take eight years to complete.⁹⁵ While naval base commanders and their superior officers pleaded for consistent fiscal support from Congress, they faced continual shortfalls in funding. Long terms contracts, as seen with ship contracts, were once again sought for large naval base improvements. These contracts would have allowed the infrastructure to catch up with the increasing dimensions and numbers of battleships.⁹⁶

Though his administration failed to ensure continual funding of the in progress dry docks, Meyer's principle influence was reforming the department in ways that made the operations of the Navy more businesslike. The Swift Board was established soon after Meyer took office. The board was tasked with investigating naval organization and methods to improve efficiency. These improvements were aimed at reducing operating costs. Cutbacks in expenses were sought in order to liberate more funds for increases in battleship construction. Infrastructure improvements would only be added if the reductions were large enough. As in Roosevelt's presidency, battleships remained the priority.⁹⁷ Released in October 1909, the report contained numerous recommendations for naval infrastructure changes.

⁹⁴ Cooling. *Gray Steel and Blue Water Navy*, 161-181.

⁹⁵ Tillman, *Yearbook*, 699-700.

⁹⁶ DON, *Annual Report 1910-1911*.

⁹⁷ DON, *Annual Report 1910*.

The most significant recommendation contained in the report concerned base closures. Comparisons between the United States and Britain indicated that the U.S. had too many naval bases. While the British had the largest fleet in the world the Royal Navy had only five Royal Dockyards, the United States' fleet ranked third in the world and the Navy had eight navy yards and two large naval stations.⁹⁸ This comparison to Britain was simplistic and ignored the global nature of British naval bases. The Royal Navy had eight dockyards in Great Britain, an additional twenty-one dockyards overseas, and nine coaling stations overseas as well. The board held that an excess of bases resulted in inefficient use of appropriations.⁹⁹ While base closures were recommended, specific recommendations for which base to close did not appear in the report leaving the question to the General Board to supply recommendations of which bases to close with congressional approval.

The Swift Board sought to answer the question of who to blame for the excess of bases. The report took a different stance on who to blame for the inconsistent base policies than the House Naval Affairs Committee had taken in 1906. In 1910, the report found the uncoordinated nature of yard expansion and improvements was a result of individual yard commanders' self-promotion, resulting in duplication and excessive redundancy in infrastructure.¹⁰⁰ The General Board acted on the Swift Report and largely agreed with the findings. At the same time the Joint Board also ruled that Subic Bay would only remain as a small repair facility and that the Philippines could not be fully

⁹⁸ DON, *Annual Report 1910*.

⁹⁹ Fred Jane ed. *Jane's Fighting Ships 1910*. (New York: Sampson Low, 1910)

¹⁰⁰ DON, *Annual Report 1910*.

defended from a large scale attack.¹⁰¹ With Hawaii now the main base in the Pacific Ocean, the U.S. had effectively withdrawn almost 5,000 nautical miles across the Pacific.

Based off General Board recommendations, Meyer's 1910 Annual Report called for the closure of the naval bases at New Orleans, Pensacola, San Juan, Port Royal, New London, Culebra, and Cavite.¹⁰² Further guidance from naval leaders included the transport of the resources at Pensacola and New Orleans to Guantanamo Bay to expand the facilities there. Reasoning behind the recommendation was based off of business practices intended to allow the Navy to run more efficiently. The 1910 recommendations Meyer made were not acted on in their entirety. Meyer experienced congressional pushback from Florida and Louisiana congressmen who sought to maintain their states' naval funding. In 1912, San Juan and Culebra were shuttered and Pensacola and New Orleans were open only for the lightest repairs and maintained at the most basic level.¹⁰³ Coaling stations were also considered for closures. Decisions were not reached until a year after Meyer took office. Along with the base closures in 1912 Frenchmen's Bay, Maine and New London, Connecticut coaling stations were closed.¹⁰⁴

Guantanamo Bay did not see the expansion called for under the 1910 recommendations. After a decade of debate over the relative merits of Guantanamo the base was designated as an Emergency Repair Facility in 1911. During that year the base was moved across the bay to Toro Cay as well and only a few permanent structures were built. None of the machinery shops were actually moved from Pensacola and New Orleans. The large base envisioned for Guantanamo during Roosevelt's presidency was

¹⁰¹ Davis, *U.S. Foreign Policy*, 29-31.

¹⁰² Costello, *Planning for War*, 189-193; Davis, *U.S. Foreign Policy*, 29-31; DON, *Annual Report 1910*.

¹⁰³ DON, *Annual Report 1912*; Sprout, *The Rise of American Naval Power*, 338-340.

¹⁰⁴ DON, *Annual Report 1910-1912*.

abandoned in favor of leaving Guantanamo just as a limited facility to support the training of the fleet in peace as opposed to operations in war.¹⁰⁵

Navy yards saw sharp reductions in funding at the same time as Meyer sought to shed naval stations. From 1910 to 1911, League Island Navy Yard in Philadelphia saw a 50% reduction in funds and Mare Island experienced an 80% reduction. On the other hand, several bases saw boosted funding during the same period. These yards were on the east coast and received the benefit of the precedent set by previous administrations, emphasizing naval yards in the Northeast. New York Navy Yard's funding increased 50% and Norfolk Navy Yard received almost a three-fold increase in funding.¹⁰⁶ The largest base improvement allocation was for the establishment of Pearl Harbor as the main Pacific Ocean naval base. In 1911, Pearl Harbor received \$2,500,000 in improvement funds, almost one third of all funding that year, as compared to \$900,000 in the previous year.¹⁰⁷

While initially the navy yards faced only funding cuts under Meyer's tenure they soon faced closure recommendations as well. In both 1911 and 1912 reports, Meyer advocated that only two navy yards were required on the East Coast once the Panama Canal opened.¹⁰⁸ The recommendation was supported by the Joint Army-Navy Board's findings of 1912. Guantanamo Bay would become an essential rendezvous station and repair facility for the fleet. Key West would remain open as the main station for torpedo boats and would secure the approaches to the canal and the Gulf of Mexico in conjunction with Guantanamo Bay. Charleston would become the secondary home of

¹⁰⁵ Reynolds, "Guantanamo Bay," 149.

¹⁰⁶ DON, *Annual Report 1910-1911*.

¹⁰⁷ DON, *Annual Report 1910-1911*.

¹⁰⁸ DON, *Annual Report 1911-1912*.

torpedo boat squadrons. Two navy yards large enough to shelter the entire fleet as well as dry dock the largest battleships were required, one at Norfolk, Virginia, and one north of Delaware. New York was retained as the primary yard due to her size and location; however League Island was to be kept operational.

An underlying reason League Island remained open was her unique freshwater basin. While other naval bases had basins none had the lack of salt water in them as League Island due to her distance up the Delaware River. The lack of salt water kept the steel hulls in a better state of preservation compared to those kept in the brackish waters found at other bases.¹⁰⁹ League Island was just one of several bases that were kept open either due to their unique features or the power of the local congressmen. Closing navy bases proved more difficult than the General Board or Meyer thought.

While he attempted to shutter bases on the East Coast, Meyer sought a new base along the Pacific coast. The base was intended to support the fleet on its annual cruise in the Pacific after the completion of the Panama Canal. Appearing in the 1910 report was a recommendation for the establishment of a base in San Francisco Bay to allow deep-water draft ships to be repaired in the area. An examination by the Bureau of Yards and Docks found the channel to Mare Island Navy Yard too shallow for over fifty vessels of the fleet, including all of the modern battleships.¹¹⁰ To dredge the channel deep enough for these ships, an initial expenditure of \$900,000 was required. Not considered in the initial outlay for dredging the Mare Island channel was the cost of maintaining the channel on an annual basis, estimated at \$70,000.¹¹¹ With the continual cost of maintaining a deep channel to Mare Island as the cornerstone, Secretary Meyer proposed

¹⁰⁹ DON, *Annual Report 1912*.

¹¹⁰ DON, *Annual Report 1910*.

¹¹¹ *Ibid.*

a base at San Francisco.¹¹² San Francisco offered a large harbor with a fairly deep depth, the drawback was that much of the shoreline land was already privately occupied.

The concept of restructuring the administration of bases in the United States was drawn from British experiences. Secretary Meyer toured Britain in 1909 and brought several lessons back to the department, including the streamlining of navy base administration.¹¹³ A concerted effort was made to combine departments and administrative functions during this time period. In the Bureau of Yards and Docks, clerks and draftsmen were consolidated into one group. Central offices were created at Norfolk, Mare Island, and Puget Sound in lieu of several different offices for the different tradesmen and office workers.¹¹⁴ All of these efforts were aimed to reduce the manpower required by the bureau, allowing the pay savings to be moved to infrastructure modernization.

Established at the same time, the position of Director of Navy Yards combined all the offices that navy yards reported to at the Navy Department. Prior to the Director of Navy Yards, three separate bureaus, Construction and Repair, Docks and Yards, and Steam Engineering all received reports from bases as well dictating separate areas of base operations. The old method resulted in the commandant of a base reporting to three offices and often receiving orders contrary to one another. Part of the old divisions remained in the consolidated base administration; the primary remnant was the separation of the hull and mechanical shops. The hull shop remained focused solely on hull fittings and maintenance while the mechanical shop kept abreast of all the numerous technological innovations in heating, cooling, and hydraulic systems found in the new

¹¹² Ibid.

¹¹³ DON, *Annual Report 1910*.

¹¹⁴ DON, *Annual Report 1909*.

ships. Leaving the shops separate increased production due in part to allowing the employees to remain specialized.¹¹⁵

Base closures and the streamlining of base administration were enacted in an effort to reduce costs as naval funding diminished. Meyer retained, to a large extent, the battleship program of Roosevelt. To keep ship construction fully funded, fewer funds were available to expand infrastructure to keep the fleet in commission. All of these changes were done while the Republicans lost control of Congress to the Democratic Party. In 1911, the Democrats gained control of the House of Representatives and the Republican majority in the Senate diminished to very nearly equality.¹¹⁶ With the proportion of funds available for new ship construction dwindling due to the shift to other domestic items, naval leaders and Congressional navalists kept their focus on fighting for more money for new ships. Ships remained the top priority as they were viewed as the direct measure of naval strength. At the same time the portion of funding allocated to bases varied over the four year term and ship repair funds decreased.¹¹⁷ Taft's administration saw rapid changes made to naval organization and bureaucracy while funding for the Navy dropped from twenty-one percent of federal expenditures to eighteen percent.¹¹⁸

¹¹⁵ DON, *Annual Report 1910*.

¹¹⁶ Sprout, *The Rise of American Naval Power*, 332-333.

¹¹⁷ Tillman, *Navy Yearbook 530-545*; DON, *Annual Reports 1910-1912*.

¹¹⁸ Tillman, *Navy Yearbook 530-545*;

Chapter 7: Wilson Presidency

In 1913, Woodrow Wilson was sworn in as President. He appointed Josephus Daniels as the Secretary of the Navy. Daniels, a former newspaper owner, received approval from William Jennings Bryant and Colonel Edward M. House, two central advisors of Wilson, before his appointment.¹¹⁹ Under the new administration the first policy statement came from the 1913 annual report, Daniels stated that the Navy would “save ashore for expenditure afloat.”¹²⁰ Yet, over the next several years Daniels took a bipolar approach to naval infrastructure. One of his biggest targets in reductions was base buildings and hospitals. Expansion of repair and dock facilities, however, became a major concern for Daniels after his spring 1913 tour of bases across the U.S. He realized that Meyer’s focus on ship construction had led to deficiencies ashore.¹²¹ In 1913, there was only one navy yard capable of constructing a battleship, that being New York Navy Yard. However, at the end of the same paragraph in his 1913 annual report, Daniels stated, “In any matters of doubt as to whether an estimate should be made for money to be expended ashore or afloat, I have resolved the doubt in favor of increasing the strength of the Navy afloat.”¹²² The declared focus on ship construction remained central to naval policy as it had in both Roosevelt’s and Taft’s presidencies. Daniels’ reiteration of the battleship first position of the previous administrations meant the United States Navy remained focused on fleet expansion at the expense of operational capability.¹²³

¹¹⁹ Paolo E. Coletta, “Josephus Daniels,” in *American Secretaries of the Navy Volume II*, ed. Paolo E. Coletta (Annapolis, MD: Naval Institute Press, 1980) 525-526.

¹²⁰ DON, *Annual Report 1913*.

¹²¹ Coletta, “Josephus Daniels,” 525-527.

¹²² DON, *Annual Report 1913*.

¹²³ Davis, *A Navy Second to None*, 168-170, 184-195.

Daniels reversed the standing view on shipbuilding at navy yards. Meyer's administration had moved away from new construction at navy yards as they felt the private sector was cheaper and more efficient. Daniels' administration thought healthy competition between navy yards and private yards kept both running efficiently and reduced construction costs. While only one battleship, *New York*, was authorized for construction at a navy yard under Meyer's tenure, Daniels authorized three battleships at navy yards within two years of taking office.¹²⁴ *Arizona* and *Tennessee* were authorized in 1913 and 1914 respectively for construction at New York Navy Yard and *California*, sister ship of *Tennessee*, at Mare Island. Also in 1914, Mare Island was to construct two fuel ships while League Island received orders to build a transport and the Boston Navy Yard was to build a supply ship.¹²⁵

In his 1914 annual report, Daniels defended the move towards construction at navy yards. He pointed to the construction of the *New York* as an example of the advantages of direct naval construction. *New York* was laid down at the New York Navy Yard four and a half months after her sister ship, *Texas*, which was being built at Newport News Shipyard, yet passed her sea trials several weeks earlier than the *Texas*. Costs were also less at the navy yard: \$650,000 under the contracted price, saving approximately 30%.¹²⁶ A report attributed a portion of the cost reduction and savings in building time to direct naval inspections throughout the construction and faster turnaround times between trials. A private yard contract vessel required separate trips by inspectors for both assessments and trials. These separate visits created delays in construction; only after a mistake was corrected would the next visit be scheduled. This

¹²⁴ DON, *Annual Report 1914*; Gardiner *Conway 1906-1921*, 116-118.

¹²⁵ DON, *Annual Report 1914*.

¹²⁶ DON, *Annual Report 1914*.

system resulted in increased travel expenses and time delays. The report also explained that the previous administration's move away from navy yard ship construction had been based off of the inclusion of overhead costs, such as salaries for management and designers and building maintenance, into construction expenditures at navy yards, while the same overhead costs were not always factored into bids from private yards.¹²⁷ This difference in calculating bids led to private yards consistently under-bidding the navy yards.

Moving construction back to navy yards required keeping these bases up to modern standards and having dry docks large enough to hold the newly designed battleships. With Congress incapable of putting aside political differences, Daniels sought to define the base infrastructure needs of the planned fleet. Daniels looked to Europe for precedents. He discovered that judging relative naval power in terms of ships and the numbers of bases wasn't enough. What was required was an analysis of facilities. A main area that proved lacking was dry docks. While the United States had eleven naval shipyards, Germany had three, and Great Britain had six. Yet, the total length of the dry docks in the United States was only an eighth of Britain's home royal dockyards.¹²⁸ While there were numerous navy yards, the Navy had not built them up to meet their intended purpose. In the 1914 report, the part of the navy yard in naval policy was delineated as, "Navy yards have, as a rule, been located and developed to meet the possible requirements of the fleet in time of war, and the plant available is much in excess of that required for ordinary peace-time condition."¹²⁹ Excess operating capacity during peacetime was crucial for yards. Wartime demands for base infrastructure could

¹²⁷ DON, *Annual Report 1914*.

¹²⁸ DON, *Annual Report 1913-1914*; Coletta "Daniels" 532.

¹²⁹ DON, *Annual Report 1914*.

not be rushed into existence unlike manpower and certain supplies. Pier accommodations and outfitting services were essential to repairing and fitting out vessels during a time of conflict, and demand would greatly exceed that of peacetime. While in peacetime the demands for base services were scheduled out over the course of a year or more, wartime demands were immediate and often unpredictable.

In spite of the outbreak of war in Europe in 1914, the political will in the U.S. to build bases adequate to meet the demands of war continued to lag. Battleships still provided a more tangible measure of naval strength for both politicians and their constituents and the building program begun under Roosevelt continued while base improvement continued to languish. The imbalance in number of yards and capabilities was a direct outgrowth of a deficiency in oversight on naval base expansion. Political infighting further hampered expansion of the infrastructure. Oftentimes politicians with bases in their constituencies pressured the rest of congress to approve appropriations for their bases. One senator in 1914 retorted, “I have never failed in 18 years to vote for the appropriations for the Charleston Navy Yard, knowing all the time that I could not get an adjournment of Congress until I did so.”¹³⁰ With these impasses and the pressure to build battleships, bases remained disproportionately located on the Northeast coast, and overseas bases remained too small to support wartime repairs and outfitting. Base infrastructure improvements remained at record lows and continued to decrease below the expenditures of 1898.¹³¹

Based on tours of naval stations during his first year in office, Daniels reversed the movement to close naval bases, reopening several bases to support new kinds of naval

¹³⁰ Senator George H. Penrose. *Cong. Record*, 63 Congress, 3rd Session, 4713.

¹³¹ DON, *Annual Report 1913-1916*

weapon systems.¹³² Pensacola, while superfluous in support of a fleet in the Caribbean with the growth of Guantanamo Bay and Key West, became the headquarters of the fledgling naval air service.¹³³ An aviation board recommended Pensacola as an aeronautical station in 1913. The board was appointed to examine the matter of aviation for naval purposes and advise on actions to develop the field in the Navy.¹³⁴ Arriving at Pensacola in January of 1914, *USS Mississippi* anchored in the harbor and off-loaded aircraft and equipment that had been at Greenbury Point in Annapolis. The men of the *Mississippi* went to work renovating the existing buildings and built new shelters and ramps for the seaplanes. With the gently sloped beach, ideal for launching seaplanes, and the sheltered waters of Pensacola Bay, Pensacola Naval Station provided an ideal training location for seaplanes.¹³⁵

Submarines, while existing since the American Revolution, emerged as viable warships during the start of the twentieth century. During the first decade of the twentieth century, all American submarine construction occurred in private yards. These yards included Fore River in Quincy Massachusetts, Union Iron Works in San Francisco California, Lake in Bridgeport Connecticut, and Crescent in Elizabeth New Jersey.¹³⁶ Expenditures on submarine rose at an alarming pace during the first decade of development resulting in Daniels deciding to build a submarine at a navy yard. The lessons learned from the construction of the *New York* played a part in the decision. Once again, Daniels sought to spur competition between private yards and navy yards.

¹³² Coletta "Daniels" 533.

¹³³ DON, *Annual Report 1915*.

¹³⁴ DON, *Annual Report 1913-1914*.

¹³⁵ George F. Pearce. "Pensacola Florida," in *United States Navy and Marine Corps Bases, Domestic*, ed. Paolo E. Coletta (Westport, CT: Greenwood Press, 1985) 469.

¹³⁶ Gardiner, *Conway 1906-1921*, 126-129.

Two private companies, Electric Boat and Lake Torpedo Boat, were the only companies designing American submarines and selling their designs to a select group of private shipyards for completion.¹³⁷ Reversing Meyer's proposal to sell off Portsmouth Navy Yard, Daniels assigned the construction of *L-8* to the yard so that the Navy could gain direct experience in submarine design and construction.¹³⁸ The experience not only continued to engender competition and promote cost efficiency, it enabled the Navy to design their own submarines later.¹³⁹ Once again Daniels saw ship construction during peacetime at navy yards as essential to both cost efficiency and gainfully employing facilities that during peacetime would otherwise have been inactive and thus wasted.

Though the shift towards building ships at navy yards forced improvements at the major navy yards along the U.S. seaboard, overseas bases, which did not engage in ship construction, lagged in development. Guantanamo, once forecasted to become a naval base rivaling those found in Charleston and Puget Sound, languished for lack of consistent funding. The planned dry dock had been started but halted due to lack of money. The existing shops were too small to support a battle fleet in the harbor. One observer, Robert Nesser, remarked that sailors had to pitch tents to stay ashore when the ships were in the port. Nesser reasoned that Guantanamo's location meant that it lacked political support as it was not on American soil.¹⁴⁰ All overseas bases faced similar issues since their establishment after the Spanish-American War. Increased attention towards what constituted an adequate level of base infrastructure would follow in late

¹³⁷ DON, *Annual Report 1914*.

¹³⁸ K. Jack Bauer, "Portsmouth New Hampshire," in *United States Navy and Marine Corps Bases, Domestic*, ed. Paolo E. Coletta (Westport, CT: Greenwood Press, 1985) 500; Coletta "Daniels" 533.

¹³⁹ DON, *Annual Report 1914*; Coletta "Daniels" 533.

¹⁴⁰ Robert W. Nesser. *Out Many Sided Navy* (New Haven, CT: Yale University Press, 1916), 26-35.

1916 as Congress passed the Navy Act of 1916, except base funding decreased at a dramatic rate through 1916.

Chapter 8: Naval Act of 1916

In response to the threat of involvement in major hostilities, the United States set in place the massive building program of the Naval Act of 1916. The Naval Act called for the construction of ten battleships, six battlecruisers, ten scout cruisers, fifty destroyers, nine fleet and fifty-eight coastal submarines, and eleven auxiliary vessels.¹⁴¹ Hailed by many as the final step towards a “Navy Second to None,” the bill raised serious questions about the unbalanced nature of the Navy and its ability to support the planned battle fleet. Officers and politicians all sounded a call for a complete overhaul of naval infrastructure. While the bill was in deliberation in Congress, many in and connected to the Navy pushed for a corresponding increase in naval base budgets.

Funding for naval bases decreased by 30% from 1914 to 1916, from \$4,348,000 to \$3,042,000 in total spending.¹⁴² After the passage of the Naval Act of 1916, appropriated funds for 1917 for base improvements rose 270% to \$8,330,000.¹⁴³ Naval base capacity was required to meet the needs of the fleet expected in the next five years and continuous funding of base expansion was essential. The estimate for 1918 funds required to support the growing fleet was just over \$13 million, an increase of 60% over 1917.¹⁴⁴ Daniels’ administration stated that the shipbuilding program dictated the necessity for this expansion of bases and the expansion could not be delayed due to the time required to build the facilities.¹⁴⁵

As the Naval Act of 1916 was being drafted during 1915 and 1916, articles addressing naval bases rose dramatically in number in the Naval Institute’s *Proceedings*.

¹⁴¹ Tillman, *Yearbook*, 480-481.

¹⁴² DON, *Annual Report 1913-1916*.

¹⁴³ DON, *Annual Report 1916*.

¹⁴⁴ *Ibid.*

¹⁴⁵ *Ibid.*

These articles were written by both naval officers and civilian employees. The core of their arguments revolved around the lack of adequate support for the fleet. While there had been a steady stream of battleships launched over the past two decades, shore-based maintenance and logistical capacity had fallen behind. Numerous articles focused on the inadequacy of overseas base facilities growth. The authors realized that a battle fleet needed the large facilities overseas more than they needed them at home. Officers cited the British as the example to follow. Since their Naval Defense Act of 1889 requiring a two-power standard, the British built not only the largest battle fleet, far surpassing the next navy; they built the flotilla craft and naval infrastructure to support the fleet. British naval bases were distributed from the British Isles to every corner of the British Empire.¹⁴⁶ These bases were not scaled to peacetime use, but for wartime demands. During peacetime the Royal Navy lightly used many of these facilities, though several other navies, including the United States, benefitted from these bases as well.¹⁴⁷

Released in 1916, *The Navy as a Fighting Machine* was aimed at setting forth several answers to the debates revolving around the Navy Act. The book's author, Rear Admiral Bradley Fiske, had already served as the Aide for Inspections to Secretary Meyer and was currently the Aide for Operations, the predecessor office to the Chief of Naval Operations, for Secretary Daniels. Fiske's book detailed the several areas of a navy that enabled it to serve its nations policies and fight an enemy on the ocean. Chapters included naval defense, policy, preparedness, reserves, and design. A key chapter was Fiske's exposition on the necessity of naval bases. He states "To furnish the

¹⁴⁶ Bradley A. Fiske, *The Navy as a Fighting Machine*. (New York: Charles Scribner's Sons, 1916), 317-320.

¹⁴⁷ Henry C. Davis. "Building Programs and Naval Bases." *Proceedings* 42, no. 2 (1916); A. W. Hinds. "The Island of Guam as a Naval Base." *Proceedings* 41, no. 2 (1915).

means of supplying and replenishing the stored-up energy required for naval operations is the office of naval bases.”¹⁴⁸ Subsequent arguments included the need for large navy yards that could dock the largest battleships both in home waters and abroad. Fiske recognized that no base could truly be perfect but several served as examples for the rest of the world. These examples included Hong Kong, Gibraltar, and Malta. Fiske pointed out that these bases were outside of British home waters and were close to possible operational areas.¹⁴⁹ In the end, Fiske’s work served as a treatise on how to build a navy and enabled other naval leaders to comprehend the push for base expansion.

Along with Fiske’s book, retired Rear Admiral John R. Edwards submitted a report to Congress detailing the importance of navy bases. Edwards made several arguments against the battleship heavy policy the Navy and Congress had pursued since the Spanish-American War. He stated that the relative strength of a navy could not be based off of battleship numbers, but that naval strength was better measured by considering the other elements of the fleet and the naval infrastructure necessary to support the entire force. As with Fiske, Edward’s insisted this support had to not only be in home waters but overseas as well. Edwards insisted that bases were not maintained appropriately, the existing dry docks were too few and too small, and finally that the base distribution across the United States and her overseas territories was unbalanced and too heavy in the Northeast.¹⁵⁰ The clamoring of Rear Admiral Fiske, fellow naval officers, and the Edwards’ report caused Congress to appoint a board to review the basing questions in conjunction with the Naval Act of 1916.

¹⁴⁸ Fiske, *The Navy as a Fighting Machine*, 316.

¹⁴⁹ Fiske, *The Navy as a Fighting Machine*, 320-324.

¹⁵⁰ John R. Edwards. “Strategical Importance of our Naval Stations; The Imperative Need of Developing Along with the Fleet Adequate and Efficient Naval Stations.” 64th Congress, 1st sess. S. Doc. 344 (1916).

The Navy Yard Commission of 1916 was a direct result of questions surrounding naval bases arising during the debate for the naval act that set the Navy on a course to become the largest navy in the world. The commission toured both coasts and surveyed existing yards and stations as well as surveying for new yards. A central question for the commission was where a third yard should be established on the Pacific Coast. The board made a final recommendation for San Diego. The report included sections for submarines and aviation as well. These sections were the next steps following the initial moves to Portsmouth and Pensacola of determining the requirements for these new branches of the naval service. Groton became the heart of the submarine service, primarily due to the proximity to Electric Boat Company and Portsmouth Navy Yard. Pensacola remained the training center for naval aviation established three years earlier.¹⁵¹ The commission report reflected the realization by the Navy Department and Congress of the dismal state of naval bases compared to the battle fleet.

¹⁵¹ Navy Yard Commission, *Preliminary Report of the Navy Yard Commission*.

Chapter 9: Dry Docks

While the size of battleships rapidly increased during the “New Navy” period sizes and numbers of dry docks had not kept up. The heart of any yard or station, dry docks offered not only a place to construct ships in the major navy yards around the Northeast, but also repair and upkeep facilities for the fleet. From major battle damage to regular bottom cleaning, dry docks remained essential to the Navy. While the number of navy yards was used an indicator of support capability, the number and dimensions of dry docks were the more telling measure. The United States consistently lagged behind Great Britain in dry dock numbers and dimensions. Further, the United States did not expand or construct new dry docks to provide the capability to accommodate the largest ships on the drawing board. The danger posed by the inadequacy of existing docks was exacerbated by the fact that dry docks took longer to build than the battleships they were to dock, which meant shortfalls could not be remedied quickly. At the outbreak of World War One, the American fleet had no overseas dry docking capability for their largest ships, leaving them at the mercy of either allies or luck in battle.

Battleships had grown rapidly from the turn of the century until World War One. Composing the main battle line at the Battle of Santiago were the *Indiana* class coastal battleships. By 1916, the *Pennsylvania* class dreadnought battleship was coming into commission. These two classes were as far apart in size and technology as World War Two destroyers and their modern successors. Within ten years the largest ships of the U.S. Navy had doubled their displacement, added 33% to their length and 25% to their beam. These increases outpaced dry dock construction and expansion.¹⁵²

¹⁵² Gardiner, *Conway's All the World's Fighting Ships 1906-1921*, 112-117.

Along with the rise of battleship sizes, the armored cruiser had pushed several dry docks out of use by 1904. The new *Pennsylvania* armored cruiser of 1903 exceeded 500 feet in length for the first time in the American fleet, a length that would not be seen until the *Delaware* class battleship in 1910. The length forced her to dock only at the new docks at Portsmouth, Boston, and Puget Sound. Though smaller in terms of displacement and breadth, the cruisers proved problematic in maintenance terms. By 1906, the *Connecticut* class battleships had grown too wide for Portsmouth, leaving only the dry docks at Boston and Puget Sound capable of docking the largest ships in the American fleet.

Authorized between 1902 and 1905, three dry docks were under construction in New York, Charleston, and Norfolk. These new docks could accommodate the largest ships contemplated at the time. The increasing drafts of the battleships forced Portsmouth, Mare Island, and New York to either dredge deeper channels or not be able to support the largest ships. While New York had the most dry docks of any yard, her location became problematic. There was no more expansion room for the yard and the approaches required significant dredging to support the larger ships. The dry dock that Senator Tillman wanted for Charleston was completed shortly after the *Delaware* class was commissioned. By 1912, it had difficulties accommodating new ships. Within 6 years of its construction, the dry dock at Charleston was too small for the newest and largest ships.¹⁵³

With the *Pennsylvania* class battleship the same problem arose, with several yards being inaccessible to the new battleship. Mare Island, Boston, Portsmouth and

¹⁵³ Tillman, *Yearbook*, 699-700; Gardiner, *Conway's All the World's Fighting Ships 1860-1905*; *Conway's All the World's Fighting Ships 1906-1921*, 112-117.

Charleston could not accommodate the class. Boston's dry dock was less than a decade old and while Portsmouth's dry dock was large enough, the channel was once again too shallow for the ships to enter. Pearl Harbor broke the trend of building dry docks that were quickly surpassed by ship construction. Pearl Harbor's dry dock faced a significant delay when part of the dock collapsed in 1913 and set back the completion of the dock until 1919. Until the completion of Pearl Harbor's dock, the only dry dock overseas was the floating drydock *Dewey* at Subic Bay. Though the number of docks at American naval bases almost doubled, from ten in 1898 to eighteen in 1916, their physical size did not keep up with the rapid size increases seen in the battleships. Their distribution among naval bases remained clustered around the Northeast and the four navy yards in the region.

In comparison, the British Royal Navy led the world not only in their battle fleet size but the number of dry docks and their physical dimensions. These docks were spread throughout the empire, enabling support of any ship around the world. Their dry dock capacity was roughly 9 times greater than the U.S. and the majority of their dry docks lay outside the British Isles. Between the six royal dockyards in Britain there were twenty-two dry docks. Portsmouth had the most dry docks, six, including two large graving docks measuring 850 feet long. The total length of all the dry docks in the U.S. was 11,500 feet, just over 2.5 times the length of the total length of the six dry docks at Portsmouth. The difference in overseas capabilities was even more disparate. The U.S. had a total of eight yards while Britain had twenty-one dockyards abroad. Every one of the dockyards contained at least one dry dock with Malta and Singapore both having five dry docks. British overseas bases had a total of thirty-three dry docks; along with her

royal dockyards the Royal Navy had a grand total of forty-four dry docks in comparison to eighteen in the U.S.¹⁵⁴

The comparisons during Taft's administration focused on only the number of yards and overlooked the key factor in supporting the fleet, dry docks. During Wilson's presidency the comparison metric changed to the size and number of dry docks. The shift in evaluation revealed a large deficiency in naval infrastructure. While the U.S. largely ignored overseas bases, Britain built enough yards to support a fleet across her empire as well as at home. With the majority of docks along the East Coast, the battle fleet could not operate for long duration outside of the Atlantic Seaboard, leaving the increasingly outdated armored cruisers to operate in the Pacific. Only after the Russo-Japanese War did the American battle fleet operate in the Pacific, during the Great White Fleet cruise of 1907-1909. The cruise was aimed at answering the debate surrounding the question of the fleet operating in the Pacific to counter Japanese aggression. After the fleet returned to Norfolk in 1908, the true weakness of American naval infrastructure in the Pacific was revealed. Though hailed as a success the Great White Fleet cruise demonstrated the neglect and dysfunctional nature of political support for overseas and West Coast bases. At the heart of the problem was the battle fleet outgrowing dry docks.

¹⁵⁴ Fred Jane ed. *Jane's Fighting Ships 1916*. (New York: McGraw Hill, 1916); Ian Johnston and Ian Buxton. *The Battleship Builders: Constructing and Arming British Capital Ships*. (Annapolis MD: Naval Institute Press, 2013), 94-97.

Chapter 10: Conclusion

As the American fleet grew during the early twentieth century, naval bases and their facilities also improved to support the fleet. While the number of bases and size and number of dry docks increased, they did not keep up to the pace of growth seen in the battleship force. Requirements to meet national policy and potential threats in the Caribbean and the Pacific led to the expansion of bases in both areas. Following the Spanish-American War, overseas naval bases were rapidly established to meet the shortcomings observed during the conflict. There was no unified plan in the establishment of the bases, a direct result of naval officers and politicians acting independently with no oversight by committees or naval leaders. Expansion abroad was largely based only on lessons from the Spanish-American War and not on anticipated future operations. Domestic bases saw improvements as well, based largely on political demands. The Navy gained immense prestige from the war, but the actions following the war were not informed by naval considerations of future needs.

Pride in the Navy was not limited to naval officers; it also existed in numerous politicians. Throughout Roosevelt's presidency many congressmen sought a navy "second to none." These included Senators H.C. Lodge, J.L. Rawlings, and W.B. Heyburn and Representatives C.K. Wheeler, S.E. Mudd, and J.F. Talbot.¹⁵⁵ All of these congressmen tied the attainment of first rank in naval power status to America having a two-ocean fleet. By the end of Roosevelt's presidency the state of naval bases ranged across the board from a few buildings around an anchorage to large navy yards with new dry docks under construction. Domestic bases, having the support of the elected

¹⁵⁵ Davis, *A Navy Second to None*, 175, 445.

representatives of interested parties, were the biggest beneficiaries of the base funding made available by the Roosevelt administration. Overseas bases lagged behind the domestic bases, due in part to the lack of initial planning for the expansion of base infrastructure after the Spanish-American War.¹⁵⁶

Under Taft's administration, the battleship program continued at a similar pace as under Roosevelt. While the requests for base closures and restructuring made by Secretary of the Navy Meyer were never fully implemented, the slowdown in naval base modernization and expansion exacerbated the gulf forming between naval facilities and the fleet. Dreadnoughts continued to be laid down while the facilities were already overtaxed by the increase in size of new battleships and only piecemeal actions were taken to increase base facilities.¹⁵⁷ Wilson's administration initially continued the focus on ship construction, yet with the Naval Act of 1916, the state of naval bases gained increasing attention albeit without increased funding. Debates surrounding the bill during 1915 brought the lagging base support to the forefront of the discussion. Naval officers and politicians began to understand that constructing a fleet was not the same as creating a world class navy.

Fiscal constraints prompted the Navy to establish organizations to implement measures that provided economy as well strategic support required of the fleet. Over time, bases across the Pacific and Caribbean were closed or reduced in size as a result of the systematic approach of revising the expansion of naval infrastructure. These moves were made in opposition to naval strategists, who wanted these bases to have large facilities and docks to support wartime outfitting and repairs of a battle fleet operating far

¹⁵⁶ Sprout, *The Rise of American Naval Power*, 120-121.

¹⁵⁷ Baer, *One Hundred Years of Sea Power*, 47-50.

from coastal America. Reversing this downward trend in naval bases required a massive shipbuilding program for Congress and the Navy Department to realize the inadequacy of base infrastructure. Bases needed to be able to support the new ships being built, in both normal steaming as well as emergency wartime repairs. Capability could not be grown overnight and required political backing as well.

As the Navy progressed through the first two decades of the twentieth century, naval leaders continually sought whatever funding they could obtain. Supporting arguments for funding ranged from diversifying naval infrastructure as a hedge against wartime losses to simply gaining more federal funding in an area. A common argument throughout the era was that there was no meaningful difference between peace and war for the Navy, as the ships and infrastructure required to implement foreign doctrine required a standing force. Furthermore, a force could not be summoned and rapidly built at the outbreak of war mainly due to the small size of the U.S. shipbuilding industry compared to Europe. The argument however often fell short of convincing Congress; congressmen feared losing contracts and ship repairs to overseas bases and also sought the funding for these programs brought to their districts.

Similar issues of balancing naval ship construction and public works improvements faced the British. From 1897-1904, Britain had to continuously seek extra naval bills to fund naval infrastructure improvements while leaving the annual naval acts small to allow for battle fleet production.¹⁵⁸ After the shift to dreadnought and battlecruiser construction occurred in 1905, government financial issues took a toll on the British infrastructure. In the four years leading up to the outbreak of the Great War,

¹⁵⁸ Sumida, *In Defence of Naval Supremacy*, 21-22.

British spending on naval works fell to less than half that of 1904.¹⁵⁹ However, the United States never spent at the relative level of the Royal Navy on base improvements. From 1897-1904, the British public works expenditures was equal to half the funds allocated for battleship and cruiser construction.¹⁶⁰ During the same period, the United States had added eight overseas bases, and two continental bases; yet, the total spent on the number of naval bases was equal to twenty-five percent of battleship construction allocations. While the British were able to allocate adequate funds to naval shore establishments the Americans inflated battleship construction at the cost of building commensurate means of support.

The leaders of the Navy and Congress ignored the unpalatable fact that building a fleet was not equivalent to the creation of a functional navy. A navy required the maintenance facilities, the supplies, as well as the ships with trained personnel to properly function. Ignoring any one of these categories could cripple a navy either in peace or combat. When the Navy Act of 1916 was passed the American Navy possessed a large battle fleet but not a globally-deployable navy. Lacking large dry docks overseas as well as large defended bases near areas of probable conflict, the battle fleet could not fight effectively and would have focused too much on damage aversion then effectively combating an adversary.

The same methodological oversight by the contemporary leaders of the New Navy occurred with much of the scholarship covering the period. Battleships remained the focus of the analysis of the period. Overseas bases received the most attention, namely in regards to diplomatic moves by the U.S. However, the relative spending on

¹⁵⁹ Sumida, *In Defence of Naval Supremacy*, 329-330.

¹⁶⁰ Sumida, *In Defence of Naval Supremacy*, 21-22.

these overseas bases and their actual facilities in comparison to domestic bases is overlooked. Additionally, while the Wilson administration soon realized that dry docks were a valuable comparison tool in comparing relative naval strengths of nations, many authors have ignored this critical component of naval operational logistics. Comparisons to Britain were often in terms of ships and technology, comparing bases and funding public works improvements brings a more complete picture of the relative merits of the Royal Navy and the American Navy.

Naval bases remained a consistent problem for the Navy to keep maintained and up to date with new ship construction. Inner service indecision, inter-service rivalries, and political wrangling caused an inconsistent base policy. Overseas bases consistently fell woefully short of naval planners' desires as well as the example set by Britain. The size and number of dry docks lagged even further behind. The call for change came as a result of the 1916 Navy Act. Only when the U.S. fleet was going to rise to global supremacy did Congress start to act on increasing naval bases as well as facilities across the board.

Appendices

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Table 1: U.S. Base Public Works and General Budget 1898-1916

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	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Boston Navy Yard	14,500	177,400	379,000	966,300	551,850	702,700	479,200	256,800	162,900	95,040
Cavite PI Naval Station	0	0	0	0	0	233,500	322,500	735,000	0	0
Charleston SC Navy Yard	0	0	0	0	0	913,300	300,000	706,500	396,000	471,500
Culebra Naval Station	0	0	0	0	0	0	0	0	0	0
Guam Naval Station	0	0	0	0	107,300	0	10,000	0	10,000	12,000
Guantanamo Bay Naval Station	0	0	0	0	0	0	300,000	385,000	0	0
Key West Naval Station	35,000	25,000	112,520	100,426	144,000	118,950	165,000	2,000	29,000	40,109
League Island Navy Yard	193,222	296,500	800,767	939,500	695,230	522,300	349,200	512,970	377,000	108,000
Mare Island Navy Yard	216,785	632,571	935,750	478,200	331,660	225,500	188,000	260,000	322,000	143,000
New London Navy Yard	0	200,000	25,000	0	0	41,000	2,500	0	0	0
New Orleans Naval Station			377,530	0	0	339,000	111,800	271,500	95,000	215,500
New York Navy Yard	153,000	855,037	1,047,062	1,208,900	1,009,000	560,500	313,000	371,500	82,200	128,500
Newport Naval Station	0	1,000	1,000	0	0	0	100,000	0	0	0
Norfolk Navy Yard	130,000	171,000	500,000	477,700	594,260	344,000	193,000	959,000	148,000	404,500
Olongapo Naval Station	0	0	0	0	0	0	0	806,395	100,000	207,000
Pearl Harbor Naval Station	0	0	0	144,443	26,120	42,556	77,787	1,528	4,235	2,434
Pensacola Naval Station	0	110,133	0	9,500	41,500	2,500	148,000	94,000	135,500	40,000
Port Royal Naval Station	11,837	455,325	145,000	169,823	49,802	22,793	48,287	5,026	42,487	8,556
Portsmouth Navy Yard	0	0	306,000	406,000	364,850	872,575	917,000	149,000	400,400	367,498
Puget Sound Navy Yard	80,143	132,832	48,500	276,706	273,000	810,500	295,200	292,500	213,500	205,000
San Juan Naval Station			2,510	52,000	40,000	50,000	0	0	0	0
Tutuala Naval Station		59,797	43,095	69,006	127,371	42,565	40,791	34,886	20,181	43,996
Washington Navy Yard	5,132	96,347	205,000	591,272	684,611	631,292	449,500	821,287	581,511	307,676
Total Public Works	839,619	3,212,942	4,928,734	5,889,776	5,040,554	6,475,531	4,810,765	6,664,892	3,119,914	2,800,309
	1898	1899	1900	1901	1902	1903	1904	1905	1906	1907
Maintenance of Yards	375,000	350,000	400,012	500,654	574,127	702,689	762,959	795,066	755,235	867,816
Pay	8,238,157	17,955,460	3,000,353	12,861,720	15,150,285	16,139,072	17,707,249	19,326,034	20,000,000	21,293,775
Construction and Repair	4,600,143	8,950,000	5,690,220	7,500,477	7,001,190	8,011,069	8,001,811	8,024,324	7,804,866	7,900,000
Increase of Navy (Construction and Repair)	6,425,359	13,648,473	5,992,402	12,740,699	21,000,000	13,303,010	15,025,632	26,826,860	23,410,833	17,830,829
Increase of Navy (Armor and Armament)	7,220,796	7,162,800	4,000,000	4,000,000	8,000,000	9,000,000	12,000,000	18,000,000	18,000,000	15,145,000
Increase of Navy (Torpedo Boats)	0	0	0	0	0	0	500,000	350,000	0	500,000
Total Increase of Navy	13,646,155	20,811,273	9,992,402	16,740,699	29,000,000	22,303,010	27,525,632	45,176,860	41,410,833	33,475,829
Total Navy	62,993,512.00	119,921,780	59,088,547	66,220,984	84,442,710	82,592,228	87,926,217	113,523,469	105,105,889	104,629,684

Table 1: U.S. Base Public Works and General Budget 1898-1916

(Cont.)

Table 1: U.S. Base Public Works and General Budget 1898-1916 (Cont.)									
	1908	1909	1910	1911	1912	1913	1914	1915	1916
Boston Navy Yard	128,500	197,800	210,000	105,000	277,000	240,000	129,000	170,000	25,000
Cavite PI Naval Station	13,000	59,700	15,900	0	0	0	0	0	0
Charleston SC Navy Yard	287,000	167,000	135,500	0	70,000	39,000	159,000	180,000	95,000
Culebra Naval Station	2,000	11,100	0	0	0	0	0	0	0
Guam Naval Station	22,500	32,000	44,000	5,000	32,000	0	25,000	0	0
Guantanamo Bay Naval Station	0	0	0	0	378,500	0	0	38,000	0
Key West Naval Station	44,500	0	45,000	137,767	107,000	50,500	0	0	5,000
League Island Navy Yard	125,500	190,000	467,600	215,000	160,000	150,367	223,491	265,000	55,000
Mare Island Navy Yard	248,500	211,000	572,000	102,000	345,000	80,000	80,000	237,000	65,000
New London Navy Yard	0	0	0	0	0	0	0	0	0
New Orleans Naval Station	156,300	56,000	45,000	64,677	0	0	0	0	5,000
New York Navy Yard	263,800	285,000	392,000	1,206,000	879,000	125,000	270,000	143,500	135,000
Newport Naval Station	7,840	139,890	0	0	0	0	0	0	0
Norfolk Navy Yard	365,500	705,000	300,000	895,000	322,500	158,288	262,500	25,000	130,000
Olongapo Naval Station	90,000	100,000	0	0	0	0	30,000	0	0
Pearl Harbor Naval Station		1,000,000	1,200,000	2,535,000	2,262,000	1,532,000	629,000	70,000	0
Pensacola Naval Station	242,500	36,000	20,000	2,000	0	0	0	0	15,000
Port Royal Naval Station	0	0	0	0	0	0	0	0	0
Portsmouth Navy Yard	279,900	248,000	96,500	55,250	229,000	44,000	35,000	0	0
Puget Sound Navy Yard	258,500	560,000	655,000	885,000			246,000		65,000
San Juan Naval Station	0	0	0	0	0	0	0	0	0
Tutuila Naval Station	6,000	15,000	5,500	0	300	0	0	0	0
Washington Navy Yard	85,000	48,000	60,000	146,000	109,500	200,000	53,000	100,000	145,000
Total Public Works	2,626,840	4,061,490	4,264,000	6,353,694	5,171,800	2,619,155	2,141,991	1,228,500	740,000
	1908	1909	1910	1911	1912	1913	1914	1915	1916
Maintenance of Yards	950,000	1,250,000	1,514,419	1,394,498	1,540,000	1,500,030	1,500,670	1,600,000	1,774,000
Pay	23,978,659	30,974,580	32,803,521	33,665,581	35,510,059	37,280,971	39,264,662	40,963,667	41,240,563
Construction and Repair	7,903,306	8,000,000	8,979,144	8,979,144	8,979,144	8,979,144	8,250,000	9,788,000	9,166,127
Increase of Navy (Construction)	12,713,915	12,832,962	22,766,823	19,400,753	13,781,785	9,846,205	19,818,228	19,647,617	20,664,459
Increase of Navy (Armor and Ar	12,000,000	11,000,000	12,452,772	11,565,122	10,532,928	7,265,200	11,724,192	17,412,500	18,957,998
Increase of Navy (Torpedo Boat	500,000	3,000,000	3,000,000	2,104,971	1,690,833	2,521,647	3,353,275	3,810,617	6,231,344
Total Increase of Navy	25,213,915	26,832,962	38,219,595	33,070,846	26,005,546	19,633,052	34,895,695	40,870,734	45,853,801
Total Navy	108,123,421	124,618,807	137,779,343	133,376,688	128,207,382	130,644,875	142,968,280	147,781,062	153,158,337

Table 2: Graph of Percentage of Naval Spending by Category

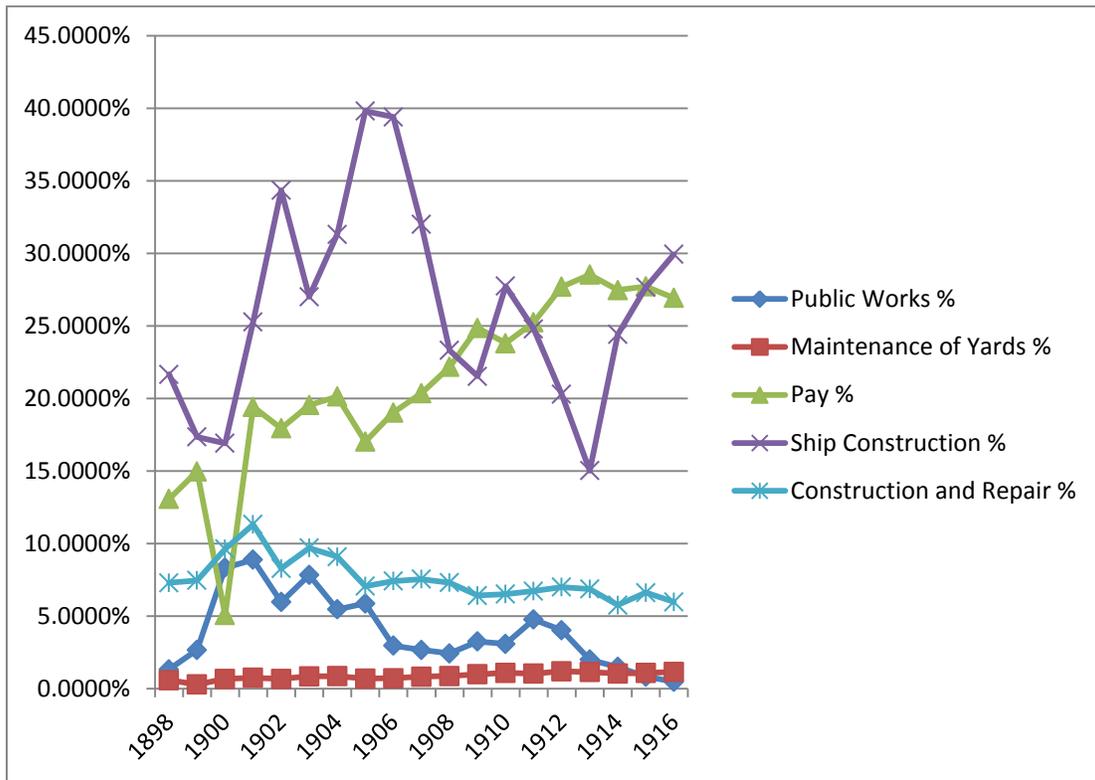


Table 3: Naval Expenditures in Comparison to U.S. Budget and Income

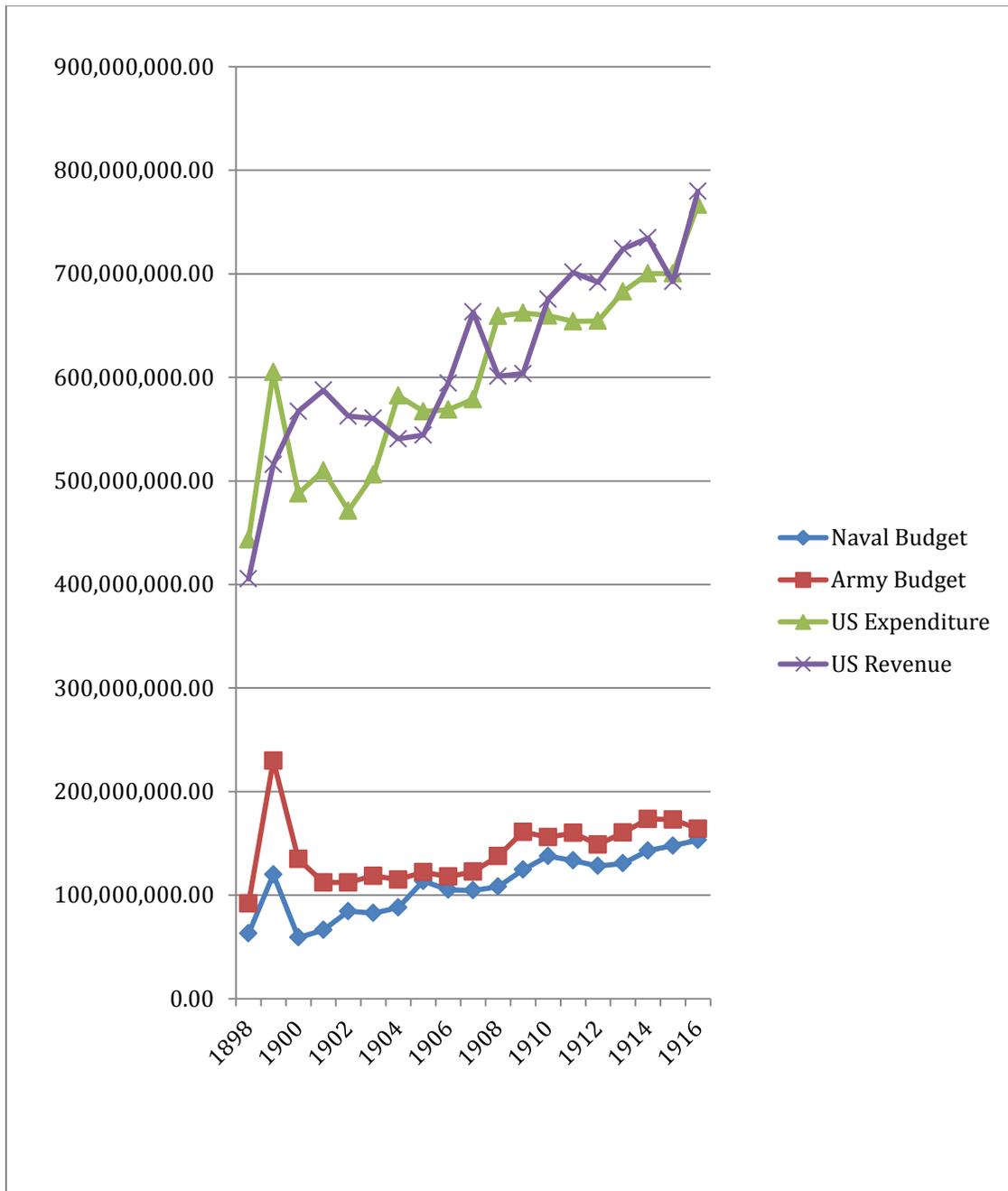


Table 4: Naval and Army Percentage of National Budget

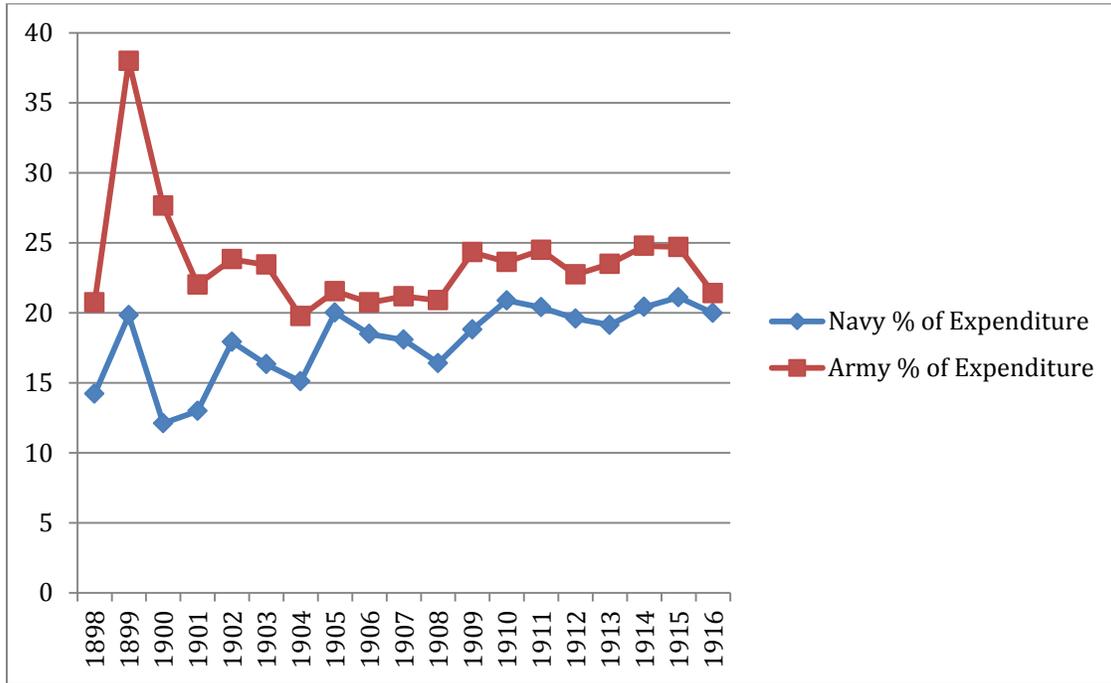


Table 5: Navy and Army Expenditures per Capita of Personnel

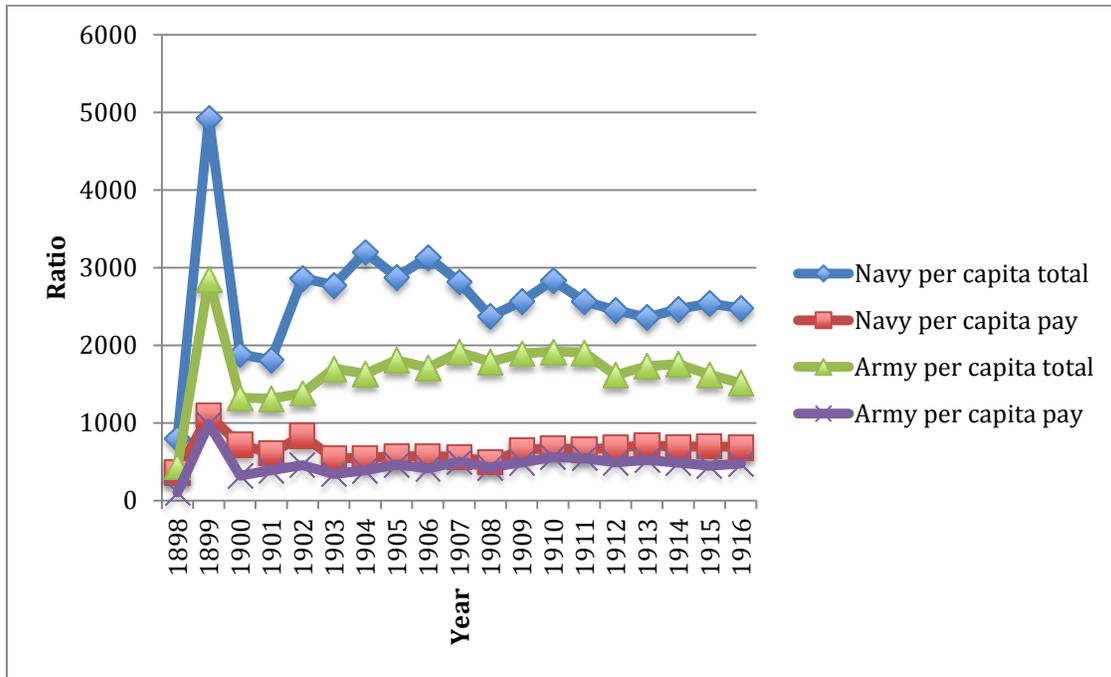


Table 6: U.S. Naval Bases and Dry Docks 1898-1916

	1898		1905		1916		Dock Completion Date	
	Installation	Drydocks	Installation	Drydocks	Installation	Drydocks		
Yards	Boston	Granite 373X46X26	Boston	Granite 373X46X26 Granite/Concrete 729X82X30	Boston	Granite 373X46X26 Granite/Concrete 729X82X30	1833 1905	
	League Island	Wood 459X58X22	League Island	Wood 459X58X22 Granite/Concrete 731X97X27 (bldg)	League Island	Wood 459X58X22 Granite/Concrete 731X97X27	1891 1913	
	Mare Island	Granite-459X45X25	Mare Island	Granite-459X45X25 Granite/Concrete 729X88X28 (bldg)	Mare Island	Granite/Concrete 729X88X28	1891 1910	
	New York	Granite 326X48X20		New York	Granite 326X48X20		Granite 326X48X20	1851
		Concrete 437X74X24			Concrete 437X74X24		Concrete 437X74X24	1901
	Norfolk	Wood 624X72X27		Norfolk	Wood 624X72X27		Wood 624X72X27	1897
		Granite 303X86X25			Granite/Concrete 694X112X32 (bldg)		Granite/Concrete 694X112X32	1913
		Wood 459X57X24			Granite 303X86X25		Granite 303X86X25	1884
	Portsmouth			Portsmouth	Granite/Concrete 732X136X31 (bldg)		Granite/Concrete 732X136X31	1889
					Wood 459X57X24		Wood 459X57X24	1911
	Washington			Puget Sound	Granite/Concrete 660X101X30 (bldg)		Granite/Concrete 660X101X30	1908
					Wood Body/Masonry Entrance 618X76X28		Wood Body/Masonry Entrance 618X76X28	1896
			Washington		Washington	Granite/Concrete 618X130X28	1913	
<hr/>								
Stations 1/C			Newport		Newport	Granite/Concrete 548X96X25	1908	
			Newport		Newport			
Stations 2/C	Newport		Key West		Key West			
	Pensacola		New London		New London			
	Port Royal	Wood 485X126X26	New Orleans	Floating 525X100X28	New Orleans	Floating 525X100X28	1902	
	Puget Sound	Wood Body/Masonry Entrance 618X76X28	Port Royal	Wood 485X126X26				
	Ovizegas		Charleston (bldg)	Granite/Concrete 548X96X25 (bldg)				
			Ovizegas					
			Culebra		Culebra			
			Guam		Guam			
			Guantanamo		Guantanamo			
			Hawaii (Hilo)					
			Kavite		Kavite			
			Olongapo	Floating 500X99X30	Olongapo	Floating 500X99X30		1905
		Pearl Harbor (bldg)		Pearl Harbor	Granite/Concrete 1,008X114X32 (bldg)		1919	
		San Juan		San Juan				
		Tutuala		Tutuala				

All Data from Navy Yearbook 1916, pg 699-700

Table 7: Great Britain Naval Bases and Dry Docks 1916

Installation	Drydocks	Installation	Drydocks	Installation
Home Dockyards		Overseas Dockyards		Overseas Coaling Stations
Chatham	650X84X33	Auckland	521X66X33	<i>Fortified</i>
	456X82X33	Bermuda	Floating 545X92X33	Aden
	456X82X33	Bombay	500X65X28	Cape Coast Castle
	456X80X32		990X100X35	King George Sound
	460X80X32	Brisbane	431X55X19	Port Stanley
Devonport/Keyham	430X93X34	Colombo (Ceylon)	708X85X32	Saint Helena
	420X80X30	Esquimault	450X65X26	Sierra Leone
	420X80X30	Gibraltar	850X90X35	<i>Unfortified</i>
	420X80X30		550X90X35	Bridgetown
	741X95X44		450X90X35	Hobart
	659X95X32	Halifax	572X89X29	Wen-Hai-Wei (China)
Haulbowline	608X94X32	Hong Kong	555X95X39	
Portsmouth	563X82X33	Karachi	263X50X12	
	723X100X33	Malta	536X73X26	
	613X93X33		520X94X33	
	850X110X36		468X80X32	
	850X110X36		770X95X34	
	Floating 680X113X36		550X95X34	
Rosyth	850X110X36	Mauritius	384X60X19	
	850X110X36	Montreal	600X100X28	
	850X110X36	Penang	343X46X14	
Sheerness	Floating 680X113X36	Port Charles	500X70X21	
Home Harbors		Prince Rupert	Floating 600X95X30	
Berehaven		Quebec	1150X120X30	
Cromarty Firth		Simon's Bay	750X95X36	
Dover		Singapore	467X65X20	
Falmouth			478X60X21	
Harwich			400X47X16	
Kingstown			450X52X19	
Lough Swilly			846X100X34	
Pembroke	404X75X24	Sydney	638X84X32	
Portland			477X59X21	
Scapa Flow		Trinidad	Floating 365X65X18	
Torbay				

Data from Jane's Fighting Ships 1916; Johnston and Buxton, *The Battleship Builders*, 94-97.

Table 8: U.S. Battleship and Armored Cruiser Classes 1898-1916

Class	Year Completed	Type	Displacement	Length	Beam	Draft
New York	1893	ACR	9,000 tons	348 ft	65 ft	24 ft
Indiana	1895	BB	11,700 tons	351 ft	69 ft	24 ft
Brooklyn	1896	ACR	10,100 tons	402 ft	64 ft	24 ft
Iowa	1897	BB	12,650 tons	362 ft	72 ft	24 ft
Kearsarge	1900	BB	12,850 tons	375 ft	72 ft	24 ft
Illinois	1901	BB	12,250 tons	375 ft	72 ft	24 ft
Maine	1902	BB	12,723 tons	393 ft	72 ft	24 ft
Pennsylvania	1905	ACR	15,100 tons	503 ft	70 ft	24 ft
Virginia	1906	BB	16,100 tons	441 ft	76 ft	24 ft
Connecticut	1906	BB	17,700 tons	456 ft	77 ft	25 ft
St Louis	1906	ACR	10,900 tons	426 ft	66 ft	23 ft
Tennessee	1906	ACR	15,700 tons	505 ft	73 ft	25 ft
Vermont	1907	BB	17,700 tons	456 ft	77 ft	25 ft
Mississippi	1908	BB	14,500 tons	382 ft	77 ft	25 ft
South Carolina	1910	BB	17,700 tons	450 ft	81 ft	25 ft
Delaware	1910	BB	22,100 tons	520 ft	85 ft	27 ft
Florida	1911	BB	23,000 tons	522 ft	88 ft	28 ft
Wyoming	1912	BB	27,200 tons	562 ft	93 ft	29 ft
New York	1914	BB	28,400 tons	573 ft	96 ft	29 ft
Nevada	1916	BB	28,400 tons	583 ft	96 ft	29 ft
Pennsylvania	1916	BB	32,600 tons	608 ft	97 ft	29 ft

All Data From Conway's All the World's Fighting Ships 1860-1905, 1906-1921

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