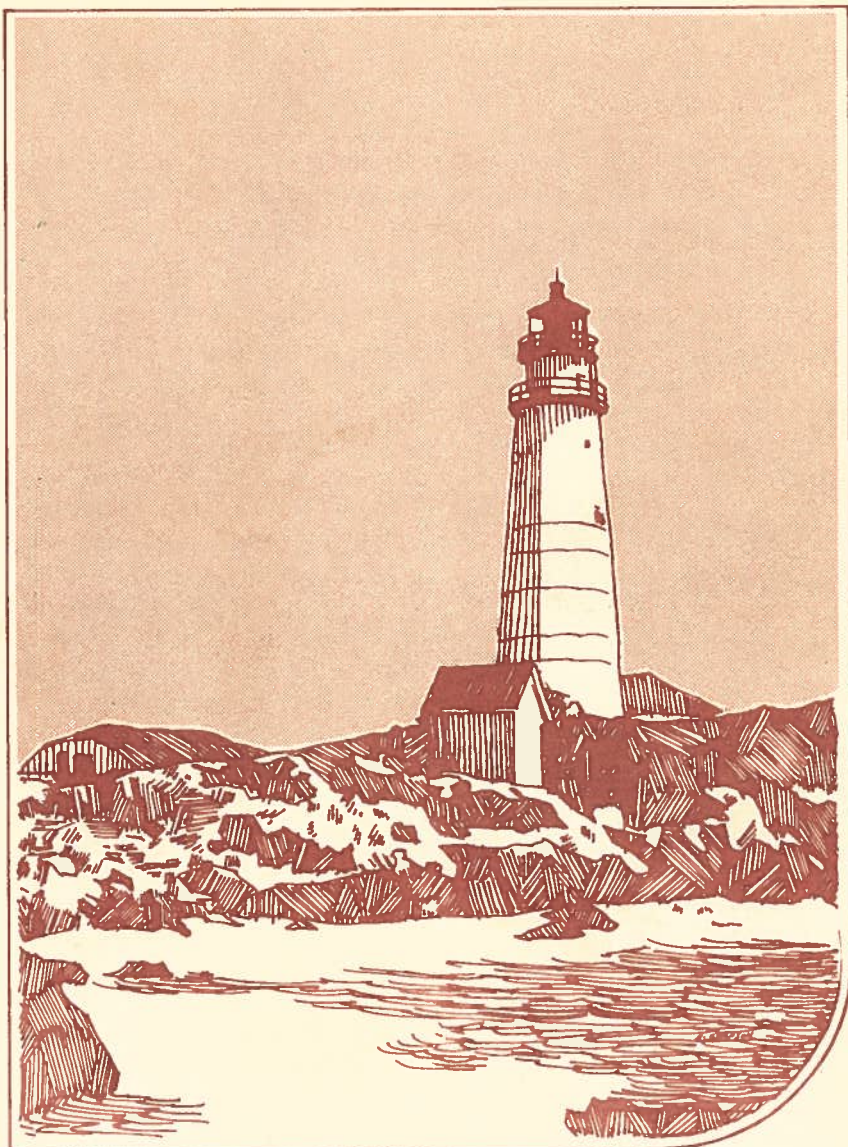


# CHRONOLOGY OF AIDS TO NAVIGATION AND THE OLD LIGHTHOUSE SERVICE

1716-1939

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# CHRONOLOGY OF AIDS TO NAVIGATION AND THE OLD LIGHTHOUSE SERVICE

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By

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## Introduction

In contrast to the four other military services, the U. S. Coast Guard, besides being humanitarian-oriented, has an unique historical, administrative, and organizational lineage. Although the name of this Service is relatively new, its history dates back to the First Congress of the United States.

Alexander Hamilton, the first Secretary of the Treasury, recognized the need of a floating police service as part of the national fiscal organization and, in 1789, Congress passed an act regulating the collection of duties on vessels and imported goods. The following year, the construction of revenue cutters were authorized. The Service, however, had no statutory designation but was variously known as "the system of cutters," "Revenue Marine," "Revenue-Marine Service," and even "Revenue Service" until the title "Revenue-Cutter Service" found its first statutory use in an act passed in 1863.

In 1915, the "Life-Saving Service" was combined with the "Revenue-Cutter Service" to form the United States Coast Guard. In 1939, the "Bureau of Lighthouses" was transferred to the U. S. Coast Guard and, in 1942, many functions of the "Bureau of Marine Inspection and Navigation" were transferred to the Service. This organizational evolution of the U. S. Coast Guard, as well as a brief history of the Service, is contained in the listed publication CG-213, Coast Guard History, prepared by the Public Affairs Division, U. S. Coast Guard, Washington, D. C. 20590.

Although by law the U. S. Coast Guard is a branch of the Armed Forces of the United States at all times, it operates in the Department of Transportation in peacetime and with the Navy Department in wartime.

The Aids to Navigation mission of the U. S. Coast Guard has a history dating back to the building and illumination of the first American lighthouse on Little Brewster Island in Boston Harbor in 1716. At first, because of the indifference of England, local or Colonial Governments had to shoulder the responsibility of making the waters safe for mariners. Following Independence, the newly created Congress of the United States created the Lighthouse Establishment as an administrative unit of the Federal Government on 7 August 1789. Before being transferred to and consolidated with the U. S. Coast Guard on 1 July 1939, it was known as the "Lighthouse Board" from 1852 to 1910 and afterwards as the "Bureau of Lighthouses" or the "Lighthouse Service."

This chronology--the first of its kind--is published by the U. S. Coast Guard for the information of all interested in lighthouses and other aids to navigation. Besides serving as a reference tool, it will also be a permanent witness to the dedication of the people, both past and present, who have participated in the type of activities described herein.

This chronology consists of a compilation of historical dates concerning what is now known as the Aids to Navigation mission of the U. S. Coast Guard, which appear in official records or have previously been set forth by various authors as factual. The purpose was to produce a brief factual chronological record delineating the evolution of this vital mission since inception, the role of the Federal Government in this development, and the contribution of the U. S. Coast Guard and its predecessors to the creation of a highly sophisticated and technologically advanced system of aids to navigation.

While many were investigated, no claim is made that all possible sources have been used. The following ones have been utilized in compiling this chronology:

Annual Report of the Commissioner of Lighthouses to the Secretary of Commerce and Labor for the Fiscal Year Ended June 30, 1911 (Washington: U. S. Government Printing Office, 1911). Hereafter cited as USLHS AR, with appropriate year(s) and page(s).

Annual Report of the Light-House Board to the Secretary of the Treasury for the Year 1868 (Washington: U. S. Government Printing Office, 1868). Hereafter cited as LHB AR, with appropriate year(s) and page(s).

- Annual Report of the Secretary of the Treasury on the State of the Finances for the Fiscal Year Ended June 30, 1939 (Washington: U. S. Government Printing Office, 1939). Hereafter cited as SECTREAS AR, with appropriate year(s) and page(s).
- Hans Christian Adamson, Keepers of the Lights (New York: Greenberg, Publisher, 1955). Hereafter cited as Adamson, with appropriate page(s).
- John S. Conway, The United States Lighthouse Service 1923 (Washington: U. S. Government Printing Office, 1923). Hereafter cited as Conway, with appropriate page(s).
- Francis Ross Holland, Jr., America's Lighthouses: Their Illustrated History Since 1716 (Brattleboro, Vermont: The Stephen Greene Press, 1972). Hereafter cited as Holland, with appropriate page(s).
- Arnold Burges Johnson, The Modern Light-House Service (Washington: U. S. Government Printing Office, 1890). Hereafter cited as Johnson, with appropriate page(s).
- George R. Putnam, Lighthouses and Lightships of the United States (Boston: Houghton Mifflin Company, 1933). Hereafter cited as Putnam, with appropriate page(s).
- Darrell Hevenor Smith and Fred Wibur Powell, The Coast Guard: Its History, Activities and Organization (Washington: The Brookings Institution, 1929). Hereafter cited as Smith and Powell, with appropriate page(s).
- Edward Rowe Snow, Famous Lighthouses of America (New York: Dodd, Mead & Company, 1955). Hereafter cited as Snow, with appropriate page(s).
- Twenty-Fourth Annual Report of the Secretary of Commerce 1936 (Washington: U. S. Government Printing Office, 1936). Hereafter cited as SECCOM AR, with appropriate year(s) and page(s).
- U. S. Coast Guard, Historically Famous Lighthouses (Washington: Public Information Division, U. S. Coast Guard, 1972). Hereafter cited as USCG, with appropriate page(s).
- George Weiss, The Lighthouse Service: Its History, Activities and Organization (Baltimore, Maryland: The Johns Hopkins Press, 1926). Hereafter cited as Weiss, with appropriate page(s).

## CHRONOLOGY

- 1716 (14 September) The Boston Lighthouse on Little Brewster Island in Boston Harbor, Massachusetts, which was the first lighthouse established in America, was first exhibited. (Putnam, p. 5; USCG, p. 33).
- 1719 A cannon was placed near the Boston Lighthouse on Little Brewster Island in Boston Harbor, Massachusetts, "to answer Ships in a Fog," thus making it the earliest fog signal established in the United States. (Putnam, pp. 5-6; USCG, p. 33).
- 1721 The New Orleans beacon built by Adrien de Pauger was "a beacon 62 feet high," but surviving records do not indicate "whether it was lighted or not." (Adamson, p. 190).
- 1746 The town of Nantucket, Massachusetts, built a lighthouse on Brant Point, on the western side of the entrance to Nantucket Harbor. (Putnam, p. 22).
- 1749 The Beavertail Lighthouse, constructed of rubble-stone and 64-feet high, was built on the south end of Conanicut Island, at the entrance to Narragansett Bay. (Putnam, pp. 23-24).
- 1755 First mention of a brick tower that had been built on Tybee Island at the mouth of the Savannah River in Georgia. Although called a "lighthouse," it apparently served solely as a beacon until the necessary alterations were made and it was lit in 1791. (Putnam, p. 18).
- 1760 About this time, a lighthouse was constructed, probably of masonry, on the west side of the entrance to New London Harbor. (Putnam, p. 23).
- 1764 (11 June) The Sandy Hook Lighthouse, at the south point of the entrance to New York Harbor, was first lighted. Today, its octagonal tower, built by Mr. Isaac Conro of New York City with money collected by a group of New York merchants, is the oldest original light tower still standing and in use in the United States. (USCG, pp. 63-64).
- 1767 The construction of the Cape Henlopen Lighthouse, on the south side of the entrance to Delaware Bay, was completed, although a light may have been shown earlier than this date. (Putnam, p. 14).
- 1767 The Charleston Lighthouse was built on Morris Island, South Carolina, the first stone of the tower being laid on 30 May. (Putnam, p. 17).

- 1767 Buoy were mentioned in the records of the building of Cape Henlopen Lighthouse by the State of Pennsylvania, for the statement of expense showed that the two sets of buoys in the Delaware River cost 1,143 pounds. (Putnam, pp. 214-215).
- 1768 A lighthouse was constructed on Gurnet Point at Plymouth, Massachusetts. (Putnam, p. 24).
- 1771 The Portsmouth Harbor Lighthouse was built on the point at Newcastle, New Hampshire. (Putnam, p. 26).
- 1784 The State of Massachusetts built a wooden lighthouse at Great Point on the northeast extremity of Nantucket Island. (Putnam, p. 25).
- 1788 The State of Massachusetts built the Newburyport Harbor Lights, two small lighthouses on Plum Island at the entrance to the Merrimac River. (Putnam, p. 27).
- 1789 (7 August) An Act of Congress (1 Stat. L., 53), only the ninth law passed by the newly created Congress of the United States and the first one to make any provisions for public work, created the Lighthouse Establishment as an administrative unit of the Federal Government, when it accepted title to, and joined jurisdiction over, the lighthouses then in existence, and provided that "the necessary support, maintenance and repairs of all lighthouses, beacons, buoys and public piers erected, placed, or sunk before the passing of this act, at the entrance of, or within any bay, inlet, harbor, or port of the United States, for rendering the navigation thereof easy and safe, shall be defrayed out of the treasury of the United States." (Weiss, p. 2).
- 1789 Starting in this year, the jurisdiction over, and the maintenance of, lighthouses and other aids to navigation have been in the Federal Government, and these aids to navigation, supported by appropriations out of the general revenues, have been free to the vessels of all nations. (Weiss, p. 3).
- 1789 -
- 1792 During this period, the Secretary of the Treasury directed personally all the details of lighthouse work. (Putnam, p. 33).
- 1789 -
- 1795 The several States ceded to the United States all the lighthouses that had been undertaken by them. (Putnam, p. 32).

1789 -

- 1842 During this period, the supply and inspection of the lighthouses of the United States, as well as any new construction, were performed mainly by contract. Under this system, the contractors virtually administered the lighthouse organization and exercised wide discretion in performing their contracts. Sub-letting of contracts was also a common practice under this arrangement, so that, in many cases, those actually engaged in the lighthouse work were not directly responsible to the government. (Weiss, pp. 4, 6).
- 1791 The lighthouse on Portland Head, at the entrance to Portland Harbor, Maine, first started by the State of Massachusetts but ceded to the United States in 1790, was completed through appropriations made by the Congress. (Putnam, p. 28).
- 1792 The octagonal sandstone tower at Cape Henry at the entrance to Chesapeake Bay was lighted. The Cape Henry Lighthouse was the first one built by the United States, and Congress in its first appropriations for lighthouse purposes on 26 March 1790 included this project, one that the State of Virginia had earlier undertaken. (Putnam, p. 20).
- 1792 The records mention three floating beacons in the Chesapeake Bay, on Willoughby Spit, the Horseshoe, and the Middle Ground. (Putnam, pp. 216-217).
- 1792 -
- 1802 During this period, the duty of directing the details of lighthouse work was given to the Commissioner of the Revenue, Treasury Department. (Johnson, p. 14; Putnam, p. 33).
- 1793 President George Washington approved a contract for a floating beacon with two masts and cages for the Delaware River at a cost of \$264.00. (Putnam, p. 216).
- 1796 The lighthouse, first started by the State of North Carolina, at Bald Head at the mouth of the Cape Fear River was completed by the United States. (Putnam, p. 29).
- 1797 The Montauk Point Lighthouse, located near the edge of a high cliff at the east end of Long Island, New York, was built, being "the earliest lighthouse for which the American Congress made appropriations with the exception of those taken over from the colonies." (Snow, p. 104).
- 1797 In this year, "eclipsers" were installed on the Cape Cod Lighthouse, and "this was apparently the first use in this country of a light with an intermittent characteristic." (Putnam, p. 195).

- 1797 An Act of Congress provided for 16 buoys in or near Boston Harbor. (Putnam, p. 217).
- 1802 -
- 1813 During this period, the Secretary of the Treasury directed personally all the details of lighthouse work. (Putnam, p. 33).
- 1803 -
- 1804 The keeper of the Cape Hatteras Lighthouse was instructed to test porpoise oil as an illuminant. Although the first results proved favorable, subsequent tests revealed that it was not quite as good as sperm oil. (Holland, p. 24).
- 1807 As early as this date, the Secretary of the Treasury corresponded with the owners of the merchant vessel CORLOMANDE, just returning from Rangoon, relative to 5,000 gallons of "earth oil" (petroleum), which had been commended as the "best article known for burning in light-houses, making a very strong, clear, and bright flame, emitting at the same time a great volume of smoak." It is probably that then, as often since, the "great volume of smoak" prevented the use of the earth oil in lighthouses. (Johnson, p. 55).
- 1812 Crude parabolic reflectors were introduced in lighthouses in the United States, "together with a useless solid lens in front of the lamp. The lens was later discarded and subsequently more perfect parabolic reflectors were imported." (Putnam, p. 191).
- 1812 The first broad contract for the maintenance of lighthouses was made by an Act of Congress (2 Stat. L., 691), which authorized the Secretary of the Treasury to purchase Winslow Lewis' patent for a "reflecting and magnifying lantern" and to contract "with the said Winslow Lewis for fitting up and keeping in repair, any or all of the lighthouses in the United States or territories thereof, upon the improved plan of the reflecting and magnifying lanterns." (Weiss, p. 5).
- 1813 -
- 1820 During this period, the duty of directing the details of lighthouse work was given to the Commissioner of the Revenue, Treasury Department. (Putnam, p. 33).
- 1818 The first lighthouses on the Great Lakes were established at Buffalo, New York, at the "junction of Buffalo Creek and Lake Erie," and at Erie, Pennsylvania, on "Presque Isle, entrance of Presque Bay." (Putnam, p. 152).
- 1820 First mention of fog bells at lighthouses in the United States occurred, when an appropriation was made "for placing a bell near the lighthouse on West Quoddy Head," Maine. (Putnam, p. 228).



- 1820 About this time, spar buoys began being substituted for barrel buoys, because they had been found to be more reliable and much less expensive. (Putnam, p. 217).
- 1820 The first lighthouse was built at the mouth of the Mississippi River, on Franks Island, although "there appears to have been a temporary light on the blockhouse at Balize about 1817." (Putnam, pp. 113-134).
- 1820 The first lightship in the United States was stationed in Chesapeake Bay, off Craney Island, at the entrance to the Elizabeth River, near Norfolk. (Putnam, pp. 201-202).
- 1820 -
- 1852 During this period, the Secretary of the Treasury assigned the "care and superintendence of the lighthouse establishment" to the Fifth Auditor of the Treasury. (Putnam, pp. 38, 43).
- 1822 The French physicist, Augustin Fresnel, beginning in this year, "revolutionized lighthouse practice by developing a built-up annular lens comprised of a central spherical lens surrounded by rings of glass prisms, the central portions of which refract and the outer portions both reflect and refract in the desired direction the light from a single lamp placed at the central focus." (Putnam, p. 192).
- 1823 A lightship was stationed off Sandy Hook, thus being the "first outside vessel placed off the coast of this country." (Putnam, p. 60).
- 1825 A lighthouse was built at Fort Gratiot at the outlet of Lake Huron, being the first light to mark the passage through the St. Clair and Detroit Rivers. (Putnam, p. 153).
- 1827 "Congress enacted a bill to construct a lighthouse at Natchez, Mississippi. The light was never used and in 1835 a writer proposed that it should either be lit or used as an observatory." (Adamson, p. 304).
- 1831 (1 January) As early as this date, a contract was made to provide the Portland Harbor (Barcelona) Lighthouse on the south shore of Lake Erie in New York with natural gas "at all times and seasons" and to keep the apparatus and fixtures in repair at an annual cost of \$213.00. USCG, p. 65).
- 1832 "The first lighthouse on Lake Michigan was placed at the mouth of the Chicago River," being "located on the south bank just west of old Fort Dearborn." (Adamson, p. 318).

- 1835 A contractor, without bothering to obtain official approval from the Fifth Auditor of the Treasury, changed the Mobile Point Light from a fixed to a revolving light. (Weiss, p. 6).
- 1836 (23 July) A band of hostile Indians attacked and burned the Cape Florida Lighthouse. (USCG, pp. 16-18).
- 1837 The first lightship on the Great Lakes was stationed at the junction of Lakes Huron and Michigan. (Putnam, p. 153).
- 1837 (3 March) An Act of Congress (5 Stat. L., 181, 185) laid down certain restrictions, by providing that the construction of the large number of new lighthouses, lightships, etc., for which this law was appropriating the necessary funds, would not be begun until the Board of Navy Commissioners had examined the various projects and had reported to Congress those cases where the "navigation is so inconsiderable as not to justify the proposed works." The Navy detailed 22 officers to this duty and, before the end of the year, their recommendations resulted in the deferment of the construction of 31 lighthouses already appropriated for. (Putnam, p. 42; Weiss, p. 7).
- 1837 (30 November) Two early complainants as to the efficiency of the American lighthouses and the need for so many new light stations, E. and G. W. Blunt, publishers of Blunt's "Coast Pilot," submitted a statement to the Secretary of the Treasury, in which they argued that "the whole lighthouse system needs revision, a strict superintendence and an entirely different plan of operation." (Weiss, pp. 6-7).
- 1838 (7 July) Under the authority of an Act of Congress passed this date, the President divided the Atlantic coast into six, and the Great Lakes coast into two, lighthouse districts. A naval officer was detailed to each lighthouse district, a revenue cutter or a hired vessel was placed at his disposal, and he was instructed to inspect all aids to navigation, report on their conditions, and recommend future courses of action. (Johnson, pp. 16-17).
- 1838 After inspecting a number of lighthouses, naval officers submitted reports and recommendations, as a result of which the construction was deferred of 31 lighthouses for which appropriations had been made. (Putnam, p. 42).
- 1838 Congress made appropriations for the importation of two sets of lens apparatus. (Putnam, p. 42).
- 1838 A fog bell operated by the tide--a float through tidal motion wound up a weight which drove the striking mechanism--was installed at the Whitehead Lighthouse in Maine. This "perpetual fog bell" remained in service for several years. (Putnam, p. 228).